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DISCLOSURE, DECEPTION, AND DEEP-PACKET INSPECTION: THE ROLE OF THE FEDERAL TRADE COMMISSION ACT'S DECEPTIVE CONDUCT PROHIBITIONS IN THE NET NEUTRALITY DEBATE

This Article examines a largely unexplored frontier in the “Net Neutrality” debate: the Federal Trade Commission (FTC) Act’s proscriptions against deceptive conduct as a legal limit on Internet Service Provider (ISP) discrimination against Internet traffic. ISP discrimination against certain types of Internet traffic has blossomed since 2005 when the Federal Communications Commission (FCC), with the Supreme Court’s blessing in *NCTA v. Brand X* and FCC, relieved ISPs from common-carrier regulations that prohibited discrimination and reclassified ISPs as “information service providers.” This Article argues that the Internet’s architecture and codes presumed common carriage, indicating that the Internet’s design and industry “self-regulation” cannot alone prevent ISPs who control access to the Internet’s physical layer from becoming its gatekeepers. The FTC and FCC must use their respective authority to police the gulf between ISP promises and practices, protect Internet users and competition, and safeguard the Internet itself as a source for innovation and a wide range of speech.

***642** In August 2008 the FCC condemned cable-based ISP Comcast’s actions that interfered with subscriber use of peer-to-peer Internet protocols to legally share files and access Internet content, practices that contradicted Comcast’s offer of unfettered Internet access. While that order is being appealed and the FCC considers formal adoption of net neutrality principles, this Article examines Comcast’s actions in light of the FTC Act’s deceptive practices standards. It also analyzes the market promises and terms of service of other cable, wireline, wireless, and satellite-based ISPs to examine industry practices that limit consumer choice and competition. To protect Internet users and the Internet itself as a platform for competition and new voices, the FCC should determine whether those practices violate the Communications Act. This Article also recommends that the FTC declare that ISP advertisements of unlimited data or Internet access violate the FTC Act’s deceptive conduct provisions when the ISP’s material limits on Internet use are not prominently highlighted in the ISP’s enticements to subscribers.

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***643 I. Introduction: Federal Trade Commission Act Proscriptions of Deceptive Practices as a Restraint on Internet Service Provider Control of Internet Access**

“When I use a word,” Humpty Dumpty said . . . “it means just what I choose it to mean--neither more nor less.”¹

Where does unfettered mean restricted and unlimited mean limited? Not in Wonderland but in the Internet domain, according to several Internet Service Providers (ISPs). ISPs such as Comcast, AT&T, and Verizon promised subscribers “unfettered” or “unlimited” Internet access.² Yet, those same ISPs restricted Internet access through vague contractual prohibitions and fine print separated from broad promises of Internet access.³ The Federal Communications Commission (FCC) found in 2008 *644 that cable-based ISP Comcast used deceptive practices to furtively delay or block the use of certain Internet applications such as peer-to-peer (P2P) file sharing services.⁴ These restrictions contradicted ISP promises of unlimited or unfettered Internet access that communicated to subscribers and the marketplace adherence to the norm of “net neutrality,” that the ISP would not discriminate based on an Internet packet’s origins or protocols.⁵ This Article examines a largely unexplored frontier in the “net neutrality” debate: the Federal Trade Commission (FTC) Act’s proscriptions against deceptive conduct⁶ as a legal limit on ISP discrimination against Internet traffic.

ISPs provide access to the Internet backbone; absent regulation to the contrary, their policies determine whether subscribers can access, post, or share Internet content or use a variety of Internet applications.⁷ The debate about ISP control over Internet applications, or network management, is important to the future of the Internet as a source for innovation and a wide range of speech.⁸ Will ISPs serve as gateways to the Internet or become the Internet’s gatekeepers?

The FTC has yet to condemn ISP practices that limit access to certain Internet applications, despite an ISP’s marketing promises of unlimited access. The FTC’s Broadband Connectivity and Competition Policy Report recommended caution in

evaluating net neutrality proposals in light of the dearth of evidence presented when the report was written in mid-2007 *645 showing that ISP discrimination against Internet applications or sources was more than a theoretical problem.⁹

Examples of network non-neutrality blossomed after the FTC Broadband Report's release. Consumers began complaining in mid-2007 that Comcast delayed or blocked the use of P2P file-sharing applications.¹⁰ A user seeking to download a file may use P2P to request content from other users who may have all or a piece of that file, while those who have the requested files upload them, allowing users to share data and computer resources.¹¹ Companies such as NBC Universal, Comedy Central, National Geographic, and the National Football League use P2P to make video available for user viewing.¹² Comcast limited P2P access in 2007 and 2008, although in 2007 it promised subscribers "unfettered access to all the content, services, and applications that the internet has to offer."¹³

Nor is Comcast alone in restricting access to content using P2P protocols. In 2009, AT&T prominently advertised "unlimited" minutes for its BlackBerry wireless data service but elsewhere prohibited P2P use for video downloads of movies, and its Wireless Data Terms of service prohibit "peer-to-peer (P2P file sharing)."¹⁴ AT&T reserved the right to terminate or change customer contracts if AT&T detected subscriber use of P2P on its network.¹⁵ Cable-based ISP Cox Communications reportedly blocked many subscriber attempts to use P2P during 2007 and 2008, generating a lawsuit based on several state and federal claims.¹⁶ In 2009, Cox Communications is testing a system to handle congestion by delaying or slowing the transmission times of Internet traffic it classifies as non-time- sensitive, including P2P, file transfer protocol, and software updates.¹⁷

*646 Until 2005, FCC common-carrier obligations prohibited ISPs from deliberately discriminating against any Internet data.¹⁸ With the Supreme Court's blessing in *National Cable & Telecommunications Association v. Brand X Internet Services*, the FCC relieved ISPs from common-carrier obligations.¹⁹ In that ruling's wake, ISPs have used both technology and contract to constrain subscriber use of Internet applications. Deep-packet inspection software examines Internet packets attempting to pass through an ISP network and allows the ISP to "distinguish peer-to-peer traffic [or any other Internet application they choose to track] . . . and either block it or reduce its available bandwidth."²⁰ Using deep-packet inspection, ISPs have the technical power to cut off Internet applications "with a mere flick of the switch."²¹

To support those restraints, ISPs such as Comcast cited provisions in their subscriber contracts that give the ISP the right to manage its network and require that subscriber use not interfere with other subscribers.²² Some ISPs explicitly prohibit the use of P2P or other Internet applications, while at the same time marketing their service as "unlimited."²³ Skype, a provider of Voice over Internet Protocol (VoIP) applications that uses P2P to transmit voice "calls" or video conferences over the Internet, complained to the FCC in October 2008 that its application was "forbidden, blocked and otherwise interfered with by the largest CTIA [Cellular Telecommunications Industry Association] members."²⁴ For example, as of September 2009 AT&T enticed online shoppers with its statement that *647 the data plan required for the iPhone "includes unlimited data in the U.S."²⁵ However, in its separate terms of service, which were not highlighted or hyperlinked to its Internet marketing claims of "unlimited data," AT&T's iPhone contract prohibits "Peer-to-Peer (P2P) file sharing."²⁶

Sandvine, the company whose software Comcast deployed to limit P2P use, stated that its examination of ISP traffic indicated that "P2P now accounts for more than 40% of the total bandwidth."²⁷ PeerApp, a company that offers products to make P2P use more efficient and less bandwidth-intensive, noted that "P2P users have grown into one of the largest communities in the online world with more than 10,000,000 P2P users online at any given time."²⁸ Bandwidth consumption from P2P use exceeded client-server traffic (Internet transactions from a host that stores files and delivers it on user demand at a website?YouTube, for example) for the four years before 2007.²⁹ Since 2007, as a result of the rise of streaming videos such as YouTube and with the growth of high-definition video sites such as Hulu "client-server traffic has retaken the lead from peer-to-peer, constituting 45 percent of all internet traffic as compared with 37 percent of all traffic devoted to peer-to-peer."³⁰

PeerApp observed in 2007,

[W]ith the growing adoption of Broadband video delivery, where numerous content owners are embracing and adopting P2P based content delivery services, the problem is only going to be exacerbated and users will be

looking for 'real' unlimited bandwidth packages and in many cases will be willing to pay premium pricing.³¹ PeerApp pointed out that "the majority of P2P users actually subscribe to the highest bandwidth packages offered by the ISPs."³²

***648** Prior to the revelation that Comcast and other ISPs blocked P2P use, scholars debated about whether ISPs had an incentive to discriminate against any Internet application in light of their economic motivations to obtain and serve customers or to derive revenue from complementary businesses.³³ The actions of Comcast, Cox, and other ISPs dramatically demonstrate the reality and potential for ISP discrimination against Internet applications. Moreover, incentives to discriminate may increase as the economic downturn leads some households to cancel their cable video service and watch video over the Internet in order to save money.³⁴ ISP limits on the use of Internet applications or bandwidth undercut the viability of substituting Internet service for cable service.

In August 2008, the FCC determined that Comcast's interference with P2P and other types of Internet packets violated the Communications Act and FCC Internet policy, which declared that "consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement" and "reasonable network management."³⁵ The FCC found that Comcast's obstruction of lawful Internet applications did not constitute reasonable network management.³⁶ That finding was based in part on evidence that, in some areas, Comcast interfered with P2P traffic "24 hours ***649** a day, 7 days a week," belying claims that such practices were merely in response to network congestion.³⁷ The FCC expressed concern that Comcast's methods could harm competition and deceive consumers by making it appear that the application was faulty, rather than notifying the user that Comcast's network was busy.³⁸

Comcast is appealing the FCC's order, arguing that the FCC's Internet policy was adopted without administrative notice and comment and did not contain enforcement mechanisms.³⁹ The FCC grounded its order on several provisions of the 1996 Act and the 1934 Act, and its authority to adjudicate cases individually.⁴⁰ The FCC did not fine Comcast since the FCC had not ***650** previously announced its intention to issue fines or seek restitution for injured parties in such adjudications.⁴¹ The issuance and appeal of the FCC's order and the FTC Act's ability to order restitution for deceptive conduct highlight the importance of examining the FTC Act's constraints on ISP behavior.

This Article examines the FTC Act's deceptive conduct provisions as a legal limit on ISP discrimination against Internet traffic. Part II of this Article argues that the FCC's common-carrier laws that prohibited discrimination against voice and data traffic were critical to the Internet's development. It examines the shift in 2005 to information service provider regulation that provided the legal opening for ISP network discrimination, as well as the foundation for FTC jurisdiction over ISPs.

As a case study of the FTC Act's deceptive conduct proscriptions, Part III analyzes Comcast's promises to subscribers and the marketplace. It examines the inadequacies of Comcast's disclosures to alert users to its network management practices that deflected blame for the inability to access Internet applications from Comcast's network congestion to the Internet application the consumer was trying to access. It argues that no amount of disclosure could excuse such practices. It also analyzes the market promises and terms of service of other ISPs to highlight a range of industry advertising promises and practices that merit FTC scrutiny.

Part IV explores the limited state of competition in the United States for ISP access for computer users and the proliferation of ISP restraints on Internet applications. These conditions limit the effectiveness of simply encouraging better ISP disclosure to prevent deception and protect competition.⁴² While I agree that better disclosure is necessary, disclosure ***651** alone will not ensure that the Internet remains a vibrant and competitive source for a variety of voices and services.

Part V contrasts FTC Act deceptive practices standards with unfair competition and antitrust laws. Unlike the Sherman Act and the FTC Act's unfair competition laws, the FTC Act's deceptive practices standards and the Communications Act enable the FTC and the FCC to redress deceptive conduct, regardless of whether the entity engaging in such behavior has monopoly or market power. These distinctions emphasize that antitrust law should complement, not supplant, FTC enforcement action

over ISPs, as well as FCC regulation.

Part VI recommends that the FTC declare that advertising unlimited data or Internet access while constraining Internet use and applications is deceptive. The FTC and the FCC should require ISPs to disclose their network management policies and the FTC must scrutinize those policies to ensure they are not deceptive in light of the ISP's promises about the breadth and extent of data or Internet access offered.⁴³ Where it finds deceptive conduct, the FTC should initiate enforcement proceedings to redress harms to consumers and Internet application developers. The FTC should also declare that ISPs may not attempt to contract away user rights under the FTC Act. Although this Article focuses on the deceptive practices prohibitions of the FTC Act, it also suggests that the FTC examine whether restrictive network management policies that limit the use of Internet applications that compete with the ISP's other offerings constitute unfair competition under the FTC Act⁴⁴ or violate the Sherman Act.⁴⁵

This Article analyzes the jurisdictional line between FCC and FTC responsibility regarding ISP practices. While a full exploration of FCC policies is beyond this Article's scope, I suggest that as part of the FCC's examination of broadband industry practices,⁴⁶ the FCC must determine whether refusals to deal with Internet applications (which often contradict promises of unlimited access) are inconsistent with the Communications Act. Both the FTC and the FCC must act to protect Internet users and competition, and to safeguard the Internet itself as a source for innovation and a wide range of speech.

***652 II. From Common Carriage to Information Service Providers: The Foundation for Network Non-Neutrality and FTC Jurisdiction over Internet Service Providers**

This is the end . . . of our elaborate plans . . . the end.⁴⁷

The arcane thicket of regulatory classification created the legal foundation for the Internet's development. At its birth, Internet traffic was protected by common-carrier regulations imposed on the telephone system through which it was carried.⁴⁸ As Professor Christopher S. Yoo observed, "the Internet began as an application riding on top of a voice network."⁴⁹

The FCC in 1980, through its Computer II proceeding, affirmed that facilities-based telecommunications providers would continue to be subject to common-carrier obligations for the data traffic passing through their network.⁵⁰ Common carriage regulations forbade discrimination by the voice network against traffic passing through the telephone network, including nascent Internet traffic.⁵¹

In its 1986 Computer III order, the FCC required "local telephone companies that provided enhanced services to offer their wires on a common-carrier basis to competing enhanced-service providers."⁵² This order effectively mandated telephone companies to make their lines available to competing ISPs on nondiscriminatory, common-carrier terms.

Professor Susan P. Crawford observed that "[p]olicymakers fifty years ago were concerned that common-carriage telephone companies would control access to early computing services."⁵³ She noted,

To avoid this, regulators came up with the idea of categorizing new computing services differently from basic common carriage communications by calling these new services "data processing," *653 "enhanced services," or finally, "information services" (the current form of words used for the same idea). This categorization and its implementation was designed to protect the computing industry from the depredations of the carriers. It was premised on the continued existence of basic, general-purpose, non-discriminatory access and transport.⁵⁴

Professor Crawford characterized "non-discriminatory access to basic communications" as a principle "carved in stone" for the past fifty years since "[a]ll other services depended on this basic transport."⁵⁵

These regulations stemming from the Computer Inquiries, along with other FCC decisions, led to a proliferation of

independent ISPs that competed to offer dial-up Internet service through telephone facilities.⁵⁶ As the telephone network evolved and telephone companies offered Internet access through digital subscriber lines (DSL), the FCC also required the telephone companies “to make the telephone lines used to transmit DSL service available to competing ISPs on nondiscriminatory, common-carrier terms.”⁵⁷ Common-carrier regulations fostered competition for independent ISPs, and prohibited those who controlled access to the Internet’s physical layer from discriminating against nascent Internet content or applications.

The FCC’s insistence on nondiscriminatory access obligations, Professor Philip J. Weiser observed, “ensure[d] that the telecommunications network could be used for a variety of services (e.g., Internet access) and that rival companies could market equipment like modems that could connect to the network.”⁵⁸ Vinton G. Cerf, one of the renowned fathers of the Internet, noted that as a result of the FCC’s Computer Inquiry decisions “thousands of players were free to unleash their creative, innovative, and inspired product and service ideas in the competitive information services marketplace, without artificial barriers erected by the local telephone companies.”⁵⁹

The Internet was enabled through the creation, dissemination, and common use of Transmission Control Protocol/Internet Protocol (TCP/IP), launched in 1977 to allow disparate networks to connect through a common computer language.⁶⁰ TCP/IP serves as the lingua franca of the Internet, the computer code that enables computers and networks to communicate, *654 forming an interconnected Internet.⁶¹ The fact that no one “owns” TCP/IP and its openness were critical to the Internet’s success.⁶² Empowered by a common protocol for Internet applications, it seemed that permission was not required from those who controlled the Internet’s physical layer or from any other party to post an Internet application and create a better virtual mousetrap.⁶³

The Internet has been described as a layered model that facilitates competition between Internet applications.⁶⁴ Professor Lawrence B. Solum and Minn Chung observed, “When information is communicated via the Internet, the information flows down from the content layer (the ‘highest’ level) through the application, transport, IP and link layers to the physical layer (the ‘lowest’ level); across the physical layer in packets; and then flows back up through the same layers in reverse order.”⁶⁵ These “layers” were seen as key to the Internet’s openness since no one controlled the content layer.

In imaging the Internet’s design, J.H. Saltzer, D.P. Reed, and D.D. Clark argued that the Internet’s “intelligence” should be placed at its ends where users put applications and information into the network and choose what to draw from the network, articulating what became known as the Internet’s “end-to-end” principle.⁶⁶ This design contrasted with the closed nature of the telephone system where its owners decided what features to make *655 available on the network and controlled its “intelligence.”⁶⁷ The Internet’s “end-to-end” architecture was touted as a design that allowed applications to develop and flourish on the Internet without seeking permission from the gatekeepers of the physical network or Internet participants.⁶⁸ The Internet’s structure reflects the Internet developers’ strategy that “no central gatekeeper should decide which applications could be provided.”⁶⁹

Professor Kevin Werbach critiqued the end-to-end model for its emphasis on “only one side of the equation--the edges.”⁷⁰ He recognized that the “Internet gives extraordinary power to its endpoints, but it also embodies linkages between those endpoints The fact that the edges of the network define the applications say nothing about how those edges are wired together.”⁷¹ He commented, “An endpoint can offer a brilliant innovation, but such innovation will be of no value if other endpoints cannot access it, or cannot access it easily.”⁷²

Exaltations of the Internet’s layered model, its “end-to-end” architecture, and lack of ownership of TCP/IP protocol as the cornerstones of the Internet’s success leave unspoken the role of the FCC’s common-carrier regulations in protecting the separate roles of the Internet’s layers. TCP/IP protocol and the Internet’s “end-to-end” architecture facilitated the ability to post and access a variety of content on the Internet, while the FCC’s common-carrier requirements safeguarded those features.

Professor Lawrence Lessig’s famous 1999 aphorism “Code is Law” argued that the “code” which controls the Internet effectively creates the Internet’s architecture and its “laws.”⁷³ Lessig observed, “We can build, or architect, or code

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cyberspace to protect values that we believe are fundamental, or we can build, or architect, or code cyberspace to allow those values to disappear.”⁷⁴ “Code is Law” suggested that the Internet’s architecture or code checks government control over the Internet and the ideas carried on it (or the values embedded in it).⁷⁵

“Code is Law” did not explicitly acknowledge the role of common-carrier laws in enabling Internet applications to flourish. “Code is Law” takes on new meaning in the twenty-first century when those who control *656 access to the physical layer that connects to the Internet can and do use those same codes, as well as codes they insert and often do not disclose, to control Internet traffic. Suddenly, Code is Control, and can be used not only to manage networks, but also to discourage the growth of applications that may compete with the established revenue streams of those who control access to the Internet’s physical layer.

Professor Lessig proclaimed “Code is Law” when common-carrier requirements still restrained ISP behavior. The Internet’s design assumed ISPs and those who controlled the Internet’s transmissions lines would not purposefully discriminate against a lawful Internet application. Common-carrier regulations protected that expectation. Freed from such regulations in 2005, the vaunted architecture of the Internet, the elaborate plans which prevented its cooptation by any layer, application, content or user, are undermined by the ability of ISPs who control access to the physical layer to exercise control over access to applications and content. This is so in large part because the Internet’s architecture presumed common carriage.

Professor Mark Lemley and Professor Lessig expressed their concern about the potential for ISP discrimination if the FCC shifted its regulatory treatment of those who provide access to the Internet.⁷⁶ “Innovation,” they predicted, “will be chilled if a potential innovator believes the value of the innovation will be captured by those that control the network and have the power to behave strategically.”⁷⁷ Prognosticating the current debate about regulation of ISPs, Professors Lemley and Lessig noted, “[i]f that strategic actor owns the transmission lines itself, it has the power to decide what can and cannot be done on the Internet.”⁷⁸

The physical layer’s neutrality toward Internet traffic can no longer be presumed after the FCC alleviated ISPs from common-carrier regulations that required them to treat all traffic traveling through their network without discrimination.⁷⁹ In 2002, the FCC changed the regulatory classification for cable broadband ISPs to “information service” providers.⁸⁰ To justify its action, the FCC cited § 706 of the Telecommunications Act of 1996 which charged the Commission with “encourag[ing] the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans” by “regulatory forbearance, measures that promote competition or other regulating methods that remove barriers to infrastructure investment.”⁸¹ In 2005, the U.S. Supreme Court upheld the FCC’s reclassification of cable broadband as an information service provider in *657 *National Cable & Telecommunications Association v. Brand X Internet Services*,⁸² deferring to what the Court concluded was the FCC’s reasonable interpretation of ambiguous statutory terms that Congress delegated to the agency the power to interpret.⁸³

The FCC’s 2002 decision to reclassify broadband provided by cable companies as an information service instead of a common-carrier service did not examine whether information service providers could discriminate against Internet traffic. Nor was this issue addressed in the Brand X decision since Brand X, a Santa Monica, California-based ISP, wanted access to cable broadband to provide a competitive alternative for consumers, much like the way telephone companies had to carry competitive ISPs such as Earthlink or AOL.⁸⁴

Subsequent to the Brand X decision, the FCC reclassified telephone-system-based ISPs as information service providers.⁸⁵ It also reclassified ISPs using other means, such as wireless or broadband-over-powerlines, as information service providers.⁸⁶ Scant attention was paid to whether this shift would encourage or permit discrimination against Internet traffic carried through these networks. The FCC did, however, request public comment on whether it should impose additional requirements on ISPs under its Title I jurisdiction provided by the 1934 Act.⁸⁷

Relieved from common-carrier regulation and empowered by deep-packet inspection that allows ISP computers to scrutinize the packets of Internet traffic passing through their network,⁸⁸ Comcast’s actions *658 invigorated the debate about whether ISPs should be required to treat Internet traffic in a neutral manner.⁸⁹ Professor Rob Frieden pointed out that “[t]he ability to

‘sniff’ packets makes it possible for ISPs to deviate from ‘best efforts’ routing by discriminating on the basis of price paid for service and as a function of what kind of traffic a bitstream represents.”⁹⁰ These practices highlight the clash between the open Internet standards of TCP/IP protocol that made it easy for anyone to develop an application to run on the Internet when ISPs were subject to common-carrier regulation, and the closed network management standards, technologies, and contractual provisions that restrict use of certain applications in the absence of common-carrier laws.⁹¹

Professor Paul Ohm argues that “ISPs have the opportunity, means, and motive to engage in new forms of customer surveillance.”⁹² The opportunity, Ohm writes, stems from “the design of the network, as ISPs operate network chokepoints giving them the ability to access every bit leaving from and returning to a customer’s computer.”⁹³ Improvement in computer processing power and new software enable inspection of every packet.⁹⁴ Professor Ohm also points out that “economic pressures and the lack of ethical counterweights motivate them [ISPs] to sniff more packets.”⁹⁵

I argue that the removal of explicit legal prohibitions against Internet traffic discrimination, not just economic incentives and the lack of ethical norms, made deep-packet inspection proliferate. Computer power and software technologically enabled inspection of every packet, but the removal of common-carrier nondiscrimination requirements created the legal space for ISPs to take action based on that information. The Internet’s architecture cannot heal this problem through self-regulation because the Internet’s designers assumed that the physical layer that provided access to and carried Internet data would be neutral and simply transport data across the network. The Internet’s design presumed common carriage. The FCC *659 and the FTC must now decide whether such discrimination is prohibited under information service provider regulation.

The FCC’s 2005 case against Madison River Telephone Company illustrates the significance of the regulatory distinction between common carriers and information service providers. In Madison River Communications, LLC, the FCC entered into a consent decree with the Madison River telephone company to prohibit the company from blocking consumer access to Voice over Internet Protocol (VoIP) services to make voice “calls” over the Internet, a service which could compete with the telephone company’s services.⁹⁶ When the FCC decided Madison River, it still classified telephone-based ISPs as common carriers, subjecting them to rules prohibiting discrimination among traffic carried on a common-carrier network.⁹⁷ If Madison River had been classified as an information service provider, common-carrier nondiscrimination rules would not have governed that case. In the absence of common-carrier rules for ISPs, the FCC would have been required to determine whether Madison River’s conduct violated any other provisions of the Communications Act or other FCC rules or policies, as it did with the complaint against Comcast.

The FCC’s reclassification of cable modem and other ISPs as information service providers also subjected them to the FTC’s jurisdiction. Although the FTC does not have jurisdiction over common carriers, the FTC shares jurisdiction with the FCC over entities classified as information service providers.⁹⁸ The FTC Act created a common-carrier exception to its enforcement power, in deference to the Communications Act of 1934 and its amendments.⁹⁹ The FTC has determined that “[a]n entity is a common carrier only with respect to services it provides on a common carrier basis.”¹⁰⁰ Thus, if an entity, such as a traditional telephone *660 company, offers some services under its classification as an information service provider and others under its classification as a common carrier, the FTC has jurisdiction over that entity’s acts as an information service provider. The FTC’s concurrent jurisdiction with the FCC over information service providers creates another avenue to address the effects of ISP practices on competition and consumers.

A decade ago, the FTC encouraged ISPs to adopt subscriber privacy policies, a model Professors Weiser and Yoo cite to suggest that the FTC should encourage ISPs to more fully disclose their network management policies.¹⁰¹ Professor Steven Hetcher cites public-choice theory that suggests government agencies “seek to maximize their power, size, and prestige” to explain the FTC’s actions promoting Internet privacy policies.¹⁰² The FTC’s privacy policies, Professor Hetcher argued, allowed “the Agency to sink its jurisdictional hooks more firmly into the Internet privacy debate, and therefore the Internet.”¹⁰³

As discussed above, the FCC’s regulatory reclassification of ISPs as information service providers gave the FTC jurisdiction over deceptive and unfair conduct and unfair competition involving ISPs. The public choice theory does not explain why the FTC has not acted to police the growing gap between ISP promises and practices.¹⁰⁴ This Article brings attention to the need

for FTC enforcement action in this realm. I urge the FTC to initiate a deceptive conduct investigation to hold ISPs accountable for practices that undermine their promises to consumers and the marketplace about the breadth and extent of Internet access offered.

***661 III. The Legal Standards for an FTC Act Deceptive Practices Claim Examining Internet Service Provider Promises and Network Management Practices**

You made me Promises, Promises, You knew you'd never keep, Promises, promises, why do I believe?¹⁰⁵

The facts alleged in a suit against Comcast by subscriber Jon Hart¹⁰⁶ provide a case study of the legal issues that should be examined through an FTC Act deceptive practices claim based on the gap between ISP promises and practices. Hart's case was stayed in July 2008 by the U.S. District Court for the Northern District of California pending the FCC's decision in the matter, which the court determined might affect the basis for the breach of contract claims, and then consolidated with five other cases involving six plaintiffs challenging Comcast's interference with P2P in light of the company's advertising claims.¹⁰⁷ Hart alleged breach of contract, several claims based on state law prohibiting deceptive and unfair practices, as well as violation of the Computer Fraud and Abuse Act, a federal claim.¹⁰⁸ Hart and Comcast proposed in April 2009 to settle the case, a motion the six other class action plaintiffs oppose on the grounds that it provides inadequate monetary relief, does not reach all affected members of the class, fails to contain an order for injunctive relief that would prohibit Comcast from interfering with subscriber use of P2P in the future, or require Comcast to reveal its congestion management policies regarding *662 P2P.¹⁰⁹ While these claims continue to be litigated, the FTC should consider whether restitution or injunctive relief is merited based on the FTC Act's deceptive conduct provisions to address the alleged harms from ISP interference with Internet subscriber use in contravention of an ISP's marketing promises.

The FTC Act prohibits unfair or deceptive acts or practices in interstate commerce and unfair competition.¹¹⁰ An act has been held to be deceptive if it involves a material representation, omission, or practice that is likely to mislead consumers acting reasonably under the circumstances.¹¹¹ Deception claims often focus on whether advertisements omit material information or are misleading.¹¹² The FTC Policy Statement on Deception lists examples of practices that have been found to be misleading or deceptive, including false oral or written representations and failure to perform promised service.¹¹³

An FTC Act deceptive conduct complaint is not a breach of contract allegation.¹¹⁴ The FTC may examine statements that induced consumers to *663 enter into a contract, whether or not that statement was included in the contract. Cox Communications subscriber Lynn Lyons's complaint alleging breach of contract, fraud, and violation of state law consumer-protection claims, as well as the federal Computer Fraud and Abuse Act, was dismissed with leave to amend for, among other things, failing to allege what contractual provision required Cox to provide unlimited Internet access or was violated by Cox's interference with her use of P2P protocols.¹¹⁵ Lyons's complaint focused on Cox's advertising claims that it provided "blazing fast" speeds and "always-on connection with speed to download in seconds, not minutes."¹¹⁶ For her state law breach of contract claim, the district court distinguished between advertising statements and contract clauses, finding deceptive advertising allegations insufficient to establish a breach of contract.¹¹⁷ The FTC Act's deceptive-conduct provisions look beyond the square terms of the contract to the advertising and other material statements that induced the purchase of the goods or service.

The Act's prohibitions against unfair or deceptive practices apply to Internet advertising, marketing, and sales, as well as to advertising on other media.¹¹⁸ FTC Commissioner J. Thomas Rosch, in a June 2008 speech, emphasized the need for clear and conspicuous disclosure of material information about Internet access, and stressed that a unilateral change of contract terms may be unfair under the FTC Act.¹¹⁹

To be proscribed under the FTC Act, a challenged representation must be "contrary to fact."¹²⁰ Advertisements need not be literally false to be condemned under the FTC Act, because "[t]he impression created by the advertising, not its literal truth or falsity, is the desideratum."¹²¹ The FTC analyzes whether advertisements are "misleading in a material respect"¹²² and weighs

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the adequacy of disclosure.¹²³

The FTC Act does not allow private parties to sue in federal court to enforce it as does the Sherman Act.¹²⁴ Instead private parties must file a *664 complaint with the FTC.¹²⁵ The FTC may also investigate and bring an enforcement action on its own motion.¹²⁶ The FTC Act provides a distinct statutory basis for a complaint that may proceed alongside the FCC investigation and the resolution of state and other federal law claims regarding ISP practices and promises.

A. FTC Act Deceptive Practices Claim: False Material Representation

To be deceptive under the FTC Act the representation must be material.¹²⁷ A material claim “involves information that is important to consumers and, hence, likely to affect their choice of, or conduct regarding, a product.”¹²⁸ The U.S. Court of Appeals for the D.C. Circuit noted that the Commission has “historically presumed materiality for certain categories of claims: (1) all express claims, (2) intentional implied claims and (3) claims that . . . ‘concern[] the purpose, safety, efficacy, or cost of the product or service,’” or “its ‘durability, performance, warranties or quality.’”¹²⁹

Hart contended that Comcast promised its prospective customers “unfettered access to all the content, services, and applications that the internet has to offer.”¹³⁰ Hart alleged that Comcast “intentionally and severely impede[d] the use of certain internet applications by their customers, slowing such applications to a mere crawl or stopping them altogether.”¹³¹ Hart cited the blocking or slowing of peer-to-peer applications and Lotus Notes as examples of such impediments.¹³²

Promises of “unfettered access to all the content, services, and applications that the internet has to offer”¹³³ fall within the FTC Act’s requirement of an express or implied representation. The FTC Policy Statement on Deception declared that the Commission “generally will not pursue cases involving obviously exaggerated or puffing representations, i.e., those that the ordinary consumers do not take seriously.”¹³⁴ Comcast’s promise of unfettered Internet access does not seem like obvious puffing because it characterizes the breadth and extent of Internet service offered. *665 Compliance with that promise can be measured by whether the ISP is engaging in acts to “fetter” or impede Internet access to “all the content, services and applications the internet has to offer.”¹³⁵ Such promises are an actionable representation under the FTC Act.

Hart could also base an FTC Act claim on the portions of Comcast’s ad that promise speeds of 6 Megabytes per second (Mbps), “up to 4 times faster than 1.5 Mbps DSL and up to twice as fast as 3.0 Mbps DSL.”¹³⁶ The promise of speeds of 6 Mbps is a concrete representation in light of the surrounding high speed claims. As express claims about the speed and extent of Internet service offered, these are material claims under the FTC Act.

B. FTC Act Deceptive Practices Claim: Representation Must Mislead Consumers Acting Reasonably Under the Circumstances

The second factor in the FTC Policy Statement on Deception queries whether the representation is likely to mislead consumers acting reasonably under the circumstances.¹³⁷ The test of reasonableness considers whether the claim was directed to any particular group, such as children or the elderly, or to consumers in general, and evaluates the reasonableness of the complaining consumer’s reaction in light of the representation.¹³⁸

Comcast’s advertisements soliciting Internet subscribers were directed at the general population. As such, the complaint would be assessed in light of the reaction of the average consumer, although FTC Act complaints have been upheld when the perception of a minority of consumers indicates that a representation was misleading.¹³⁹

Hart contends in his federal case against Comcast that he relied on the company’s advertising representations about speed and the nature of the unfettered service in deciding to subscribe.¹⁴⁰ Hart “upgraded” his Internet service to Comcast’s “High Speed Internet Performance Plus,”¹⁴¹ paying more for that tier based on Comcast’s promise that he would receive fast, “unfettered” Internet service. Hart contended that the promised speed was a major reason for subscribing because it would allow him to

use applications *666 such as P2P, which require fast Internet speeds.¹⁴² Hart's subscription to a higher tier of Internet service in order to access P2P is consistent with PeerApp's observation that "the majority of p2p users actually subscribe to the highest bandwidth packages offered by the ISPs."¹⁴³

In 2008, Comcast offered several tiers of Internet access services, each promising higher Internet speeds at higher prices per tier.¹⁴⁴ The promise of more services for a higher monthly fee validates consumer impressions that the subscriber will receive additional services in exchange for paying more for the higher speed tier. This indicates that the speed and access claims are material representations that influenced the consumer's choice or conduct and are actionable under the FTC Act.

C. Defenses to an FTC Act Deceptive Practices Claim: Disclaimers, Disclosure, and Reasonable Consumer Action

1. Disclosure: Were Comcast's Disclosures Sufficient To Alert Users to the Material Limits on Internet Service?

In evaluating the reasonableness of the consumer's reaction to a material representation or promise, the FTC evaluates the relevant advertisement and transaction as a whole.¹⁴⁵ A solicitation may be likely to mislead, however, "by virtue of the net impression it creates even though the solicitation also contains truthful disclosures."¹⁴⁶ In *FTC v. Brown & Williamson Tobacco Corporation*,¹⁴⁷ the D.C. Circuit affirmed the district court's finding that an advertisement's description of cigarette tar content was deceptive even though fine print in the corner of the advertisement truthfully explained how the tar content was measured.¹⁴⁸ Inconspicuous disclosures may be insufficient to correct misleading representations.¹⁴⁹ The *Brown & Williamson* court reasoned that "consumers were unlikely to read the fine print in the corner of the ad."¹⁵⁰

*667 The FTC's Dot Com Disclosure Guidelines state that to prevent an ad from being misleading, disclosures "to ensure that consumers receive material information about the terms of a transaction or to further public policy goals, must be clear and conspicuous."¹⁵¹ The FTC explained,

In evaluating whether disclosures are likely to be clear and conspicuous in online ads, advertisers should consider the placement of the disclosure in an ad and its proximity to the relevant claim. Additional considerations include: the prominence of the disclosure; whether items in other parts of the ad distract attention from the disclosure; whether the ad is so lengthy that the disclosure needs to be repeated; whether disclosures in audio messages are presented in an adequate volume and cadence and visual disclosures appear for a sufficient duration; and, whether the language of the disclosure is understandable to the intended audience.¹⁵²

Thus, placement, proximity, and prominence are key factors for effective disclosure.

Hart avers that when he signed up for Comcast's Internet service, any disclosures or limits were not prominently explained.¹⁵³ Instead, as part of the sign-up process, a scroll window opened with the Comcast High-Speed Internet Subscriber Agreement.¹⁵⁴ Only 10 to 15 lines of text were visible at one time, according to Hart, who pointed out that if all of the text were pasted into a word document it would total "22 pages of single-spaced text."¹⁵⁵ Hart claimed that "none of the terms of service state that Comcast can or will impede, limit, discontinue, block or otherwise impair or treat differently the Blocked Applications" such as P2P.¹⁵⁶ Hart insists that at the time he signed up for service there were no disclosures to temper the statements about the unfettered nature of Internet access to the full range of content and applications the ISP promised.¹⁵⁷

The FTC evaluates the placement of disclosures in proximity to the relevant advertising claim.¹⁵⁸ Even if the disclosures in the scroll screens adequately explained the limitations on the services offered (and the facts of Hart's case indicate they did not), their placement in a separate document accessible only by clicking through dozens if not hundreds of computer screens does not satisfy the FTC standard for proximity or conspicuousness *668 in relation to the ad's material claims. The inadequacy of such disclaimers is underscored by their limited detail as well as their separation.

Professor Barbara van Schewick testified to the FCC that Comcast's website as of April 2008 did not direct customers to an

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acceptable use policy informing consumers about the limits they could expect for their Internet access.¹⁵⁹ She noted that a pop-up window emerged when a Web user clicked on “terms and conditions.”¹⁶⁰ That window simply stated, “Service is subject to terms and conditions of Comcast High-Speed Internet Subscriber Agreement and Home Networking Amendment if applicable. For restrictions, minimum requirements and details about service and prices, call 1-800-Comcast.”¹⁶¹ Although this alerts potential subscribers to possible restrictions, it provides no details about those restrictions to balance any representations about the products offered. This vague notice about possible restrictions does not comport with the FTC Act’s requirement for proximity, clarity, and conspicuousness of any disclaimers in relation to material claims or promises.

Similar issues arise from AT&T’s advertisements for its three tiers of BlackBerry service and the limits on that service described in a separate document.¹⁶² The BlackBerry Personal plan offers “unlimited data to instantly connect you to email, the web and so much more.”¹⁶³ The description of the offered services does not highlight limits to the “unlimited” data service offered. Those limits are found by scrolling down to the bottom of the screen to the area marked by an asterisk for “Mobile Banking” and the notation “Additional charges may apply. See terms and conditions for details,” and then clicking on the link for terms and conditions.¹⁶⁴ There is no asterisk to call attention to the limits on the unlimited data service. A potential subscriber would have to guess that the terms referenced next to the notation for the additional charges for mobile banking may contain restrictions on unlimited data that are found after clicking “See terms and conditions for details.”¹⁶⁵ Those terms of service *669 prohibit the use of P2P file sharing for “intranet access” and “intranet browsing.”¹⁶⁶

The FTC has concluded that “[t]he law is violated if the first contact . . . is secured by deception . . . even though the true facts are made known to the buyer before he enters into the contract of purchase.”¹⁶⁷ “[E]ach representation must stand on its own merit, even if other representations contain accurate, non-deceptive information.”¹⁶⁸ Thus, material limits on service, even if fully disclosed in a separate document, may not be sufficient to correct a misrepresentation.

Professor Tim Wu illustrated similar disclosure issues for wireless Internet services in his article arguing that consumers should be able to attach the devices and access the content of their choice on wireless networks.¹⁶⁹ Professor Wu noted that Verizon’s ad offered “unlimited broadband access” for \$59.99 a month with a “2-yr customer agreement and qualifying voice plan” and a link to “Learn More,” but elsewhere in the user agreement, forbade the use of certain applications such as P2P and VoIP, and imposed undisclosed data bandwidth use limits.¹⁷⁰ The failure to list these limits on the face of the screen offering “unlimited broadband access” and the lack of prominent information about the limits in the customer agreement indicate those advertisements would not meet the FTC Act’s standard.¹⁷¹

Robert Hahn, Robert Litan, and Hal Singer cite Verizon’s abandonment of the term “unlimited bandwidth” in its advertisements after consumer complaints about the undisclosed limits to illustrate their argument that “imposing an additional layer of regulation for mandatory disclosures” is unnecessary.¹⁷² After those complaints, Verizon included explicit *670 statements about data bandwidth limits for wireless Internet users.¹⁷³ The subsequent addition of material limits on existing customers does not, however, cure inadequate disclosure at the time of purchase, and may also constitute an “unfair” practice under the FTC Act.¹⁷⁴

Verizon was also pushed into changing its practices by the New York Attorney General’s investigation of Verizon’s advertisement of “unlimited” minutes for wireless data. Verizon’s Internet, television, print, direct mail advertisements, displays, and brochures described its Data Access Plan as “unlimited.”¹⁷⁵ Yet, Verizon imposed an Internet usage cap on subscribers its contract terms did not disclose, and prohibited the use of Internet activities such as movie downloads and online games.¹⁷⁶ The New York Attorney General’s Office commented these “usage restrictions were not clearly and conspicuously disclosed to consumers and directly contradicted the promise of ‘unlimited’ service.”¹⁷⁷ Thus, regulation via enforcement of state laws, not just market forces and industry response to consumer complaints, changed Verizon’s practices.

In October 2007, Verizon entered into an “Assurance of Discontinuance” with the New York Attorney General’s Office not to use the word “unlimited” to describe or advertise its plan if usage is subject to a quantitative cap, and to clearly disclose limits for common Internet applications.¹⁷⁸ The agreement exempted several uses as not “common internet applications” including “peer to peer (P2P) file sharing applications that are of such a nature as to lead to unreasonable broadcast to multiple servers,” along with other items such as server devices.¹⁷⁹

The characterization of P2P as an Internet application that was not common is not reflective of Internet usage in the years before or since the consent decree. Software company PeerApp noted that “P2P applications and their ability to access all forms of digital media is the leading reason why Internet users are flocking towards high speed broadband *671 networks.”¹⁸⁰ ISP attempts to characterize P2P as a marginal application that users should know is excluded by “unlimited” plans are increasingly out of step with the expansion of legal usage of P2P to display video on the Internet with the permission of the copyright owner, to enable voice calls through programs such as Skype, or to watch the March Madness basketball tournament through platforms like Akami.¹⁸¹

In an attempt to justify its actions that limited P2P use, Comcast contended that its disclaimers “always properly and clearly informed its customers of the nature of its High-Speed Internet service and of the company’s need to manage its network.”¹⁸² Comcast informed the FCC that for years its Acceptable User Policy (AUP) required customers to ensure that their “use of the Service does not restrict, inhibit, interfere with, or degrade any other user’s use of the Service nor represent . . . an overly large burden on the network.”¹⁸³ Comcast emphasized that its Terms of Service were subject to “upstream and downstream rate limitations,” but did not specify the boundaries of those limits.¹⁸⁴ From a user’s perspective, it is difficult to determine whether their use of any protocol will impose an overly large burden on the network or exceed unspecified upstream and downstream rate limitations.

Comcast, along with several parties who filed comments in the FCC broadband practices proceeding, alleged that P2P protocols use large amounts of bandwidth, burdening the network and causing congestion.¹⁸⁵ This occurs in part because P2P users send more data upstream than most ISPs anticipated.¹⁸⁶ Comcast allocates less upstream capacity to Internet users than downstream capacity, assuming users will download more files *672 than they upload.¹⁸⁷ The Consumer Federation of America and Free Press heralded this as a positive feature that breaks the closed network model of some ISPs.¹⁸⁸ Comcast lambasted this same feature as degrading other users’ Internet experience.¹⁸⁹

Sandvine, the maker of the software Comcast deployed to limit P2P use, pointed out that a number of factors contribute to congestion, including ISPs’ “longstanding policy of overbooking networks” and a network “design philosophy that no longer reflects current bandwidth usage.”¹⁹⁰ Sandvine commented,

DSL, cable and wireless networks are all hampered by a design philosophy that no longer reflects current bandwidth usage. The asymmetrical design of these networks, which dictates that downstream traffic is faster than upstream traffic, was originally based on usage patterns from early content-consuming applications like e-mail and Web-browsing. However, the continual evolution of applications from content consuming to always-on content supplying has meant that current traffic patterns no longer fit asymmetrical bandwidth assumptions.¹⁹¹

ISP network bandwidth has traditionally been divided to provide more capacity for downstream uses (downloading) than upstream uses (sending). That network design reified the paradigm of Internet users as content consumers, rather than content creators or people who share content. P2P challenges those assumptions by facilitating the publication and sharing of content, although it is also used to transmit voice and video data to content consumers. As Comcast’s comments indicate, its network design contributed to network congestion as Internet applications evolved to facilitate more user-generated data, as well as browsing, downloading, and uploading larger data files.

The shared nature of cable-based Internet access also results in congestion, especially during peak periods, when multiple users in a neighborhood try to access the Internet.¹⁹² Since the network is shared, users cannot predict when and what other subscribers will use. Nor are they privy to the ISPs’ network design or congestion-management practices to allow the subscriber to anticipate how much upstream or downstream capacity they can use.

*673 Additionally, some users may be unaware that the applications they are requesting use P2P. Many consumers may not realize that some VoIP services use P2P to make voice or video calls over the Internet.¹⁹³ Consumers may unwittingly violate ISP interpretation of their terms of service by using applications they would not readily identify as P2P-based technologies.

Comcast's disclaimers, terms, or policies did not reveal that deep-packet inspection software scoured a user's Internet traffic. Nor did Comcast reveal to its users or the market (until the FCC required it to do so) that the company had identified certain Internet protocols for "management," triggering Comcast's disruption of those applications when undisclosed usage levels were reached.¹⁹⁴ Pursuant to the FCC's August 2008 order that Comcast disclose its congestion management procedures, Comcast revealed that "[w]hen the number of unidirectional upload sessions for any of the managed P2P protocols for a particular Sandvine PTS [Policy Traffic Switch] reaches the pre-determined session threshold, the Sandvine PTS issues instructions called 'reset packets' that delay unidirectional uploads for that particular P2P protocol in the geographical area managed by that Sandvine PTS."¹⁹⁵ Comcast had not previously disclosed that such interruptions would occur when an undisclosed level of traffic involving any protocols was reached. Comcast contended that it advised its customers about its right to engage in "reasonable network management."¹⁹⁶ Subscribers and Internet application developers could hardly have anticipated Comcast's conduct under an ISP's reservation of "reasonable network management." Comcast's open-ended reservations provided inadequate disclosure to alert subscribers to the limits on the unfettered Internet access they were promised.

2. Were Comcast's Actions Deceptive in Light of Its Promised Services and Limited Disclosures?

In response to the FCC's order to reveal Comcast's network management practices, Comcast revealed in September 2008 that it used Sandvine to examine the headers of TCP/IP packets to distinguish whether traffic is VoIP, P2P, or e-mail.¹⁹⁷ The Associated Press contended that Comcast *674 used Sandvine to inject "reset" messages to block its attempts to access the King James Bible from other P2P users.¹⁹⁸ Through reset messages, "[e]ach PC gets a message invisible to the user that looks like it comes from the other computer, telling it to stop communicating. But neither message originated from the other computer--it comes from Comcast."¹⁹⁹ Sandvine advertised secrecy as a feature of its product so that "subscribers have no indication of what is happening."²⁰⁰

A reset (RST) message was defined in the document describing TCP/IP protocol submitted in 1981 to the Defense Advanced Research Projects Agency to mean "[r]eset the connection."²⁰¹ An October 1989 document that was an official specification for the Internet community states that "[a] reset message notifies the sender computer that a port it is trying to reach is unreachable."²⁰²

Dr. Sally Floyd criticized the use of resets as a congestion management tool in a 2002 Internet Engineering Task Force memo.²⁰³ Offering her interpretation of the original specification of TCP, Floyd observed that "Resets are appropriately sent in response to a connection request to a nonexistent connection, for example. The TCP receiver of the reset aborts the TCP connection, and notifies the application" ²⁰⁴ Floyd stated that using resets for congestion management confuses their meaning and encourages aggressive countermeasures.²⁰⁵

Dr. Floyd's comments rebuked ISPs and Internet firewall administrators who were increasingly deploying resets. In 2004, a team of Spanish researchers published an article suggesting that resets could be used effectively to mitigate bandwidth use of P2P software, exactly the practice Comcast adopted.²⁰⁶ Other ISPs triggered resets to create "firewalls" against unwanted intrusions or to limit Internet access including bandwidth *675 consumption during "wait time" when certain protocols are inactive.²⁰⁷ China famously uses resets to deter users of Chinese Internet services from accessing information the government deems undesirable.²⁰⁸ One Internet expert published a paper warning that hackers may exploit resets to initiate a denial-of-service attack to falsely terminate an established TCP connection.²⁰⁹

Vuze, a company that uses P2P to distribute legal video and other content, developed a "plug-in" to allow Internet users around the world to monitor and gather data on Internet resets they encountered.²¹⁰ Over 8000 users participated, involving more than one million hours of Internet use.²¹¹ Vuze's study identified Comcast along with Cogeco, a Canadian ISP, as having high Internet reset rates.²¹²

A 2008 study by the German Max Planck Institute found that 82 of the 151 Cox broadband subscribers (54%) that voluntarily tested their connections through the research group's site had their P2P connections blocked.²¹³ Of the 788 Comcast

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subscribers participating, 491 (62%) were blocked.²¹⁴ The Max Planck Institute reported that evidence of blocking BitTorrent connections, a popular application using P2P, declined since April 2008, the month in which the FCC held its second hearing about broadband network management practices.²¹⁵ Evidence of blocking declined throughout the summer of 2008, although for Comcast it did not drop precipitously until November 2008, several months after the FCC's August 2008 reprimand of Comcast's practices.²¹⁶

***676** AT&T criticized Vuze's study in its comments filed with the FCC, arguing that the study only pointed out that resets occurred, but did not demonstrate that ISPs were using resets for network management.²¹⁷ While not proof of an ISP's motives or methods, this evidence of high levels of resets for users of certain ISPs substantiated the call for investigation into Internet traffic management techniques, including resets. Comcast's September 2008 admission to the FCC that it used resets for traffic management and specifically targeted P2P validates the trends revealed in the Vuze and Max Planck studies.²¹⁸

Comcast contended that its "practices are widely accepted in engineering circles as constituting reasonable network management,"²¹⁹ a claim that provoked great controversy. Dr. David Reed commented at the FCC's en banc hearing on Broadband Network Management Practices that "neither Deep Packet Inspection nor RST [reset] Injection are acceptable behavior by autonomous systems in the Internet . . . they violate the expectation that the contents of the envelopes are untouched inside and between autonomous systems."²²⁰ Reed cited Floyd's RFC, discussed above, as evidence that the Internet Engineering Task Force (IETF), the body that determines Internet protocols, rejects resets as good design for controlling congestion.²²¹

In September 2008, as Comcast disclosed its network management practices to the FCC, Richard Bennett, an Internet Network Architect, defended the use of resets as a congestion management tool.²²² Bennett cited Paul Korzeniowski's article for *Forbes*, which emphasized the need for ISPs to manage network congestion in light of their overselling of bandwidth capacity.²²³ Korzeniowski noted that the Public Switched Telephone Network would respond to congestion by providing users a busy signal and lamented that the Internet's architecture does not give ISPs a busy signal.²²⁴ Bennett commented, "ISP's actually do have a 'busy signal option:' it's the Reset packet that Comcast uses to limit active upstream ***677** sessions."²²⁵ I argue that using resets as a "busy signal" is deceptive in that it makes the user believe the problem is with the application or the site she is trying to reach when the problem is with the network. The telephone system employs a "hard" or "fast" busy signal to indicate a network problem, a distinction resets upend.

Using resets to reduce network congestion muddies the significance of their established meaning. Comcast admitted to using deep-packet inspection to identify certain P2P applications through a code in their TCP header and trip the reset message to delay that transmission.²²⁶ The documents that established the protocol for "resets" did not contemplate its use for this purpose and assigned a different significance to that message.

Comcast effectively asks users and competitors to accept a world behind the "Looking Glass," where meaning may change at the ISP's discretion²²⁷ and the ISP effectively controls what may be carried through its access to the Internet. Although the designers of the Internet contemplated that it would be dynamic, they did not contemplate that those who controlled access to the Internet's physical layer would discriminate against certain types or sources of traffic in light of prevailing common-carrier regulations for the telephone network that carried the Internet.²²⁸

Comcast used the "reset" function of TCP/IP to delay at least some P2P traffic on the grounds that P2P caused undue congestion for Comcast customers trying to access the Internet.²²⁹ Comcast contended that a reset packet is "the only machine language [P2P protocols] understand [and] this type of technique is common in the networking and software industry where alternatives don't exist."²³⁰ Yet, TCP itself is designed to handle Internet congestion. When faced with Internet congestion, TCP will activate messages other than resets telling senders to slow down their transmission rates.²³¹ Resets were designed to indicate that a connection port an Internet user is trying to reach is unreachable,²³² not to signal or handle Internet ***678** congestion. Other applications or services can also alleviate Internet congestion,²³³ indicating that resets are not an ISP's only alternative.

Comcast characterized its use of reset messages benignly. Comcast informed the FCC that to "effectuate its management

practices, Comcast's network issues instructions called 'reset packets'--which involve a communication between two IP addresses (and, importantly, not between two people)--to temporarily delay the initiation of new unidirectional P2P file uploads.²³⁴ Comcast contended that it inserted a reset in the TCP/IP packet header only to delay the upload:

A "reset" is nothing more than a bit in the TCP packet header that is used to signal that there is an error condition within the network and that a new connection needs to be established; the new connection is automatically established by the application or service initiating the connection. It is much like what occurs when a fax machine receives a busy signal and the machine automatically redials until the facsimile goes through, except that in the case of P2P the downloading computer may have hundreds or thousands of other computers to look to for the desired file. . . . This is the same message that the computer receives when any number of problems occur during a P2P file transfer, and the computer requesting the file automatically knows how to process this message and to retry its request (assuming it has not already downloaded the file from other computers) without the user having to take any additional action.²³⁵

Comcast contended that when "P2P unidirectional upload sessions (i.e. sessions where a computer is only uploading and not simultaneously uploading and downloading) reach a pre-determined congestion threshold in a particular neighborhood, Comcast temporarily delays initiation of any new unidirectional upload sessions until the number of active uploading sessions drops below that threshold."²³⁶

***679** Comcast's analogy to a busy fax machine is inaccurate. The alleged problem is not that the other "number is busy" in the sense that the other computer or site the user is trying to reach is unavailable, but that Comcast's network is congested. Free Press, the organization that petitioned the FCC to investigate Comcast's practices,²³⁷ contended that resets effectively stop transmissions.²³⁸ Free Press avers that while some software automatically tries again to establish an Internet connection when faced with a reset message, this is not true of all programs that communicate using protocols blocked by Comcast's reset messages.²³⁹ For applications that do not keep trying to connect, a reset message effectively terminates rather than delays an attempt to connect to an Internet site or another computer using the Internet in the face of a reset message.

Similarly, Comcast's analogy to "a traffic ramp control light [that] regulates the entry of additional vehicles onto a freeway during rush hour" is inapposite, in that the traffic signal makes it clear to the freeway driver that conditions such as rush hour require management of driver entry.²⁴⁰ Drivers know to expect delays during rush hour and can potentially avoid these delays by choosing to travel at other times or on other routes. The reset message does not communicate to the computer or its user that the network is congested. Nor did Comcast's undisclosed rules for using reset messages (or its protocol-agnostic congestion management system adopted in 2009 to delay the traffic of Internet users who contribute to congestion)²⁴¹ inform a user about times when congestion and congestion management protocols are more or less likely to be deployed.

Information about congestion problems, network management practices, and restrictions on the use of certain Internet applications might lead a user to subscribe to a different ISP that uses a service such as DSL that does not require subscribers to share bandwidth.²⁴² As Comcast explained, for cable-based broadband, "bandwidth available for high-speed cable Internet service is not individually dedicated, but is shared among multiple users, and one household's use of the service necessarily impacts use of the service by other users in that geographic area."²⁴³ The shared bandwidth of ***680** cable-modem-based Internet access contributes to congestion. Reset messages, as well as Internet packet slowdown techniques, deflect subscriber attention to network design as a source of congestion and make it appear that the problem is with the Internet site or protocol the subscriber is trying to use.

In the parlance of the telephone network, Comcast's reset message effectively says, "The number you have reached is not in service. Please check the number and try again." Yet, the real problem is congestion, caused not only by user demand for particular applications, but also by the ISP's own network architecture and bandwidth limitations. It would be more accurate to inform consumers as the telephone system does, "All circuits are busy now, please try your call again later." The "all circuits are busy" message communicates that the problem is with the network. It also communicates that the network is unable to process current levels of demand.

Failure to disclose Internet practices that may track or interfere with computer use may be deceptive under the FTC Act. The FTC brought a complaint in 2007 against an Internet advertising software provider for failure to disclose that its offers of free software programs (“lureware”) such as screen savers, games, and P2P software would also result in the installation of defendant Zango’s adware, designed to monitor Internet use and deliver ads based on individual use patterns.²⁴⁴ The FTC bought a similar complaint against Advertising.Com and issued an order requiring better disclosure of what consumers were getting.²⁴⁵ While Comcast and other ISPs may argue that reservation of rights to manage the network permitted the use of resets and other techniques, material interference with the use of Internet applications indicates that under the Zango and Advertising.Com precedent, such tactics should have been explicitly disclosed. The ability of resets to thwart or slow use of applications and deflect blame for their apparent malfunction indicates that failure to disclose resets or similar tactics is a material deception.

Faced with a deceptive message that the Internet content of their choice is “disconnected” and that the user must try again, some users might conclude that the Internet is not a viable means to access legal data including video, voice, games, or other services. These are exactly the services that ISPs, *681 such as Comcast, provide through their vertically and horizontally integrated affiliates. The FTC expressed concern in its 2007 Broadband Connectivity and Competition Policy Report that “in many instances it may be more difficult for an end user to distinguish between performance problems resulting from deliberate discrimination and problems resulting from other, more general causes.”²⁴⁶

If users knew that Comcast inserted those reset messages, consumer dissatisfaction about Comcast’s actions and network congestion might threaten the incumbent’s revenues and market share. Yet, subscribers have limited market choices if dissatisfied with such practices. Comcast might respond to disaffected subscribers who cancel their minimum-term contract (often required for those who buy video, voice, and Internet bundles), based on Comcast’s actions, by charging an “early termination fee,” effectively penalizing a subscriber for the ISP’s previously undisclosed practices and discouraging switching.²⁴⁷

Vuze, a company that uses P2P software to legally distribute video, music, and games over the Internet,²⁴⁸ contended that Comcast’s

slowing or degrading of traffic causes users of applications such as Vuze to lose patience and abandon using the application--particularly if they do not realize that the network operator is causing the delay and instead mistakenly think that the delay is caused by the content delivery platform (like Vuze).²⁴⁹

The effect of an ISP’s representations on Internet application developers raises the question of whether they can seek redress under the deceptive conduct proscriptions of the FTC Act.

The FTC Act statute does not use the word “consumer” to describe the reach of its prohibitions against deceptive trade practices. Nonetheless, the deceptive practices portion of the FTC Act is often characterized as a “consumer protection” provision because the standard tests whether a material representation is false or likely to mislead a customer acting reasonably under the circumstances.²⁵⁰ Although Internet application providers are not subscribers who pay ISPs for the service of providing Internet access, they are arguably consumers who use some of the Internet *682 access the ISP provides through the applications and content carried through the ISP’s conduit.

Professor Yoo observed that the Internet is a “[t]wo-sided market[]” that arises “when network economic effects create demand interdependencies that cause the value that any one party derives from participating in the platform to depend not only on price, but also on the number of other platform participants.”²⁵¹ In other words, the value of the Internet is increased by those offering applications or sharing content through applications such as P2P. Professors Joseph Farrell and Professor Weiser recognized that when ISPs are faced with the growing popularity of applications that threaten their traditional revenue sources, their incentives to interfere with those applications may outweigh their incentives to deliver the broadest range of Internet access.²⁵² In this two-sided market, application providers, as well as ISP subscribers, are affected by an ISP’s network management practices that limit or narrow access to certain protocols.

Vuze requested that the FCC examine whether Comcast's actions constituted "reasonable network management."²⁵³ In August 2008, the FCC found that Comcast's interference with P2P and other types of Internet packets violated the Communications Act of 1934, the 1996 Act, and FCC Internet policy.²⁵⁴ The FCC expressed concern about Comcast's motives in light of the video files that consumers were trying to access through P2P that could pose a competitive threat to Comcast's video services and create competition and pressure on prices for such service.²⁵⁵

Technological developments and the economic recession have made that competitive pressure grow. As the economy soured in late 2008 and 2009, some households cut the cable or satellite cord and turned to the Internet to watch video in order to save money.²⁵⁶ An ISP's ability to limit use of Internet applications or bandwidth tempers consumer ability to substitute the Internet for cable or satellite video services.

Before ISP interference with certain Internet protocols was revealed, Internet application developers used the standard TCP/IP code, which included numbers in the TCP header to identify the Internet application,²⁵⁷ understanding that the reset function would be used only when there was a problem with the source or site to which the user was trying to connect. ***683** Those programmers now realize they built a shutoff valve into their software that ISPs argue they can trigger to "manage congestion."²⁵⁸ As an alternative to avoid Comcast's tactics, the Electronic Frontier Foundation suggested software developers encrypt their files to "prevent[] ISP intermediaries from telling which protocol a particular connection is using" so the ISP "cannot directly discriminate based on protocol."²⁵⁹ Deep-packet wars are developing on the Internet.

Professor Jonathan Zittrain suggested that "[i]f network providers try to be more constraining about what traffic they allow on their networks, software can and will be written to evade such restrictions--so long as generative PCs remain common on which to install that software."²⁶⁰ He recognized that "workarounds would be less effective if the network provider merely slowed down all traffic that was not expressly favored or authorized," a tactic some ISPs such as Cox are deploying, as discussed below.²⁶¹ Professor Zittrain concluded that "in a world of open PCs some users can more or less help themselves, routing around some blockages that seek to prevent them from doing what they want to do online."²⁶²

Evasion has not been so easy and, as Professor Zittrain points out, only "some users" will have the technical savvy to circumvent their ISP's constraints.²⁶³ While sophisticated users may employ "technical countermeasures, including end-to-end encryption," Richard Whitt expressed concern that "a market arms race escalation may be insufficient to deter bad conduct by the broadband providers."²⁶⁴

The need to outwit your ISP to access Internet applications not only deters use of those applications, it highlights the limited nature of their supposedly "unlimited" or "unfettered" service. Under the FTC Act, the ability of some sophisticated users or application developers to skirt ISP limits by hiding the nature of their Internet applications does not constitute a defense to the ISP's failure to deliver the promised service levels where ***684** the material constraints on that service were not simultaneously, clearly, and prominently disclosed.²⁶⁵

D. FTC Act Deceptive Practices Claim: Alleged Benefits of Conduct Not a Defense

Comcast defended its Internet management practices as benefiting both subscribers and those who run applications on the Internet. Comcast contended that it uses "state-of-the-art technologies that do not prevent or block consumers from using P2P protocols but do ensure that such uses do not degrade other users' access to content, applications, and service."²⁶⁶ Comcast informed the FCC of its perception that "a very small number of broadband users employ certain P2P protocols that utilize immense amounts of bandwidth in ways that are unpredictable and inconsistent and that can threaten to overwhelm network capacity and harm the online experience of other users."²⁶⁷ Comcast claimed its practices helped applications that are sensitive to network interference, promoting horizontal competition on the Internet, while improving service for subscribers.²⁶⁸

Those professed benefits to subscribers as a whole and certain Internet applications do not constitute a defense to an FTC Act deception claim. Comcast's promise of unfettered Internet access was a blanket promise to each subscriber of that service (and a representation to Internet application and content developers who rely on ISPs to deliver their content), not a promise

to maximize Internet bandwidth available to the majority of subscribers. Some subscribers may understand that their Internet access will be slower when traffic increases on a shared bandwidth system, such as a cable modem-based ISP, while other subscribers unaware of these features of cable-based Internet will not. The ISP's promise of unfettered Internet access does not generate an expectation that certain sites or protocols will be more difficult or impossible to use during such times or that the ISP will restrict Internet access.

Unlike the standard for evaluating conduct alleged to be "unfair" under the FTC Act, which requires a determination that the challenged practice is not "outweighed by any countervailing benefits to consumers or competition,"²⁶⁹ the FTC Act's deception standards contain no balancing test for weighing alleged consumer benefits against the harms of a *685 representation that is claimed to be deceptive.²⁷⁰ Though the subscriber benefits of Internet traffic management techniques are hotly contested, any such benefits would not shield the ISP from an FTC Act deception claim.

The FTC Act's proscriptions against deceptive acts or practices in interstate commerce do not require an examination of the service provider's intent. The FTC examines the effects of the service provider's material representation(s) on consumers and competition. Intent to deceive is not an element of the FTC Act's proscriptions against unfair or deceptive conduct, "but a consumer's reasonable and detrimental reliance is."²⁷¹ Despite a company's benign characterization of such practices (a description the FCC disputed when it found Comcast throttled P2P access at all hours regardless of the state of congestion),²⁷² if those practices are not consistent with a company's promises to consumers and were not prominently disclosed along with the relevant representations, they may violate the FTC Act.

E. FTC Act Deceptive Practices Claim: Private Agreements with Application Providers and Changes in the Congestion Management System Do Not Resolve the FTC Act Issues

Comcast announced in July 2008 its agreement with VoIP provider Vonage to "work together with Vonage to ensure that network management techniques are chosen that effectively balance the need to avoid network congestion with the need to ensure that over-the-top VoIP services like Vonage work well for consumers."²⁷³ This agreement generated swift criticism. Professor Marvin Ammori commented on behalf of Free Press, "We are baffled as to why it was necessary for Vonage to strike a network *686 management agreement with Comcast to guarantee that their services are not degraded or blocked."²⁷⁴ "Such anti-competitive, anti-consumer practices are already against the law. And beyond that, Comcast has been on the record as saying that they do nothing to deter their customers' use of VoIP. This announcement calls into question the company's honesty about its treatment of competing services."²⁷⁵

Antitrust law has been watchful over the potential for anticompetitive conduct from competitor cooperation, even within the context of a standard setting organization.²⁷⁶ An ISP's private deal with an Internet application developer could raise antitrust concerns if such actions were tantamount to a group boycott of competitors.²⁷⁷ Those deals would also have to be examined to determine if they were consistent with ISP promises to subscribers and the marketplace.

In compliance with the FCC's August 2008 order finding that Comcast's practices violated the Communications Act and FCC policy, in September 2008, Comcast disclosed its network management practices to the FCC.²⁷⁸ It also discussed its plans to move to protocol-agnostic congestion management by December 31, 2008, that would no longer specifically target P2P or any other Internet application.²⁷⁹ Comcast notified the FCC that as of the end of 2008, it ceased employing the congestion management *687 techniques described in its September 2008 letter that specifically identified certain P2P applications for delay methods including resets.²⁸⁰

As part of this "protocol-agnostic" approach, as of October 1, 2008, Comcast imposed a 250 gigabyte (GB) a month data bandwidth consumption limit for residential customers.²⁸¹ Comcast justified its cap by contending that most users do not use more than two to three GB per month.²⁸² Free Press noted that subscribers could exceed that cap by "watching four hours of HD (high definition)-quality television."²⁸³ Other analysts have estimated that a Comcast subscriber would exceed those bandwidth caps by watching 125 hours of high-definition video (forty-one three-hour movies a month).²⁸⁴

In addition to monthly bandwidth limits, Comcast announced that if it concluded that the network was congested, whether upstream or downstream, it will ascertain whether a particular subscriber has been a source of congestion during a recent period of minutes and assign that subscriber's Internet traffic lower priority.²⁸⁵ This policy of assigning a lower priority to those Comcast determines have been heavy users during times of congestion is separate from the 250 GB per month limit.²⁸⁶ Thus, a customer could be a "heavy" user only once and have her traffic slowed even though she uses far less than 250 GB per month.

A Comcast spokesman said the company's goal was to slow heavy Internet users during times of congestion to speeds tantamount to "a really good DSL experience."²⁸⁷ If a user wanted DSL speeds they would have *688 subscribed to DSL. Like Hart, many subscribers who want to use high bandwidth applications subscribe to Comcast because of the speeds it offers.²⁸⁸

Cable-based ISP Time Warner prohibits "use of excessive bandwidth" in its Operator Acceptable Use Policy without defining what constitutes excessive use.²⁸⁹ Time Warner planned in April 2009 to expand the number of markets in which it tested bandwidth caps with tiered pricing that would have offered between 5 megabytes of bandwidth for a set fee or up to 100 GB of bandwidth for \$150 a month.²⁹⁰ The company withdrew its plans to extend tiered pricing after customer outcry, stating that they wanted to educate customers about consumption-based billings and to develop and provide tools to help customers understand how much bandwidth they use.²⁹¹

PeerApp questioned whether Internet traffic shaping practices, such as slowdown techniques based on packet inspection or bandwidth consumption, solve the "fundamental problem: providing a more effective mechanism to manage different applications and satisfy the subscriber demand for all forms of multimedia content in a timely manner."²⁹² For the ISP, PeerApp cautioned that "shaping can actually have an adverse affect on the top line (revenues) by creating a poor subscriber experience, creating slow response and download times, and curtailing content availability."²⁹³

These congestion management practices and bandwidth consumption quotas or tiers of service are lawful under the FTC Act's deceptive conduct proscriptions only if they are consistent with the promised level of service and disclosures that induced entry into the contract. The FTC's Dot Com Disclosure Guidelines emphasize that "[d]isclosures must be effectively communicated to consumers before they make a purchase or incur a financial obligation."²⁹⁴ Modification of contract terms of service and ISP practices will not cure inadequate disclosure at the time of subscription and may constitute an "unfair" practice under the FTC Act.²⁹⁵ For new subscribers, disclosures must be sufficient to ensure that consumers understand ISP network management procedures, and those practices must be consistent with the level of Internet service the ISP promised. ISPs must *689 also communicate the usage levels that will trigger delays and the nature and extent of those delays.

The FTC must also monitor the potential for unfair competition and anticompetitive conduct if network management practices disadvantage Internet video uses, VoIP calls, or applications that compete with an ISP's services, its affiliated businesses, or partners. Subscribers using bandwidth intensive protocols such as some P2P applications or programs that upload or download video are most likely to encounter ISP delays. While a user can predict that cable modem ISP services may be busier at night and on weekends when more people are home, the shared nature of cable bandwidth may trigger these restrictions anytime a sufficient number of users in a neighborhood consume an undisclosed amount of bandwidth.²⁹⁶

Comcast's letter describing its revised network management system raised concern at the FCC over how Comcast's policies would affect VoIP calls over the Internet.²⁹⁷ Comcast's disclosures stated "that customers of other 'VoIP providers that rely on delivering calls over the public Internet . . . may experience a degradation of their call quality at times of network congestion.'"²⁹⁸ The FCC drew attention to Comcast's statement on its website that proclaims "Comcast Digital Voice is a separate facilities-based IP phone service that is not affected by this [new network management] technique."²⁹⁹ The FCC asked Comcast to explain why its filings omitted "the distinct effects that Comcast's new network management technique has on Comcast's VoIP offering versus those of its competitors."³⁰⁰ It also asked Comcast to explain why such "facilities-based" service should not be treated as a telecommunications service subject to common-carrier obligations.³⁰¹

Comcast responded by emphasizing the distinction between VoIP services provided "over-the-top" of a high speed Internet

connection and Comcast's Digital Voice which does not run over Comcast's Internet connection.³⁰² Comcast contended that it "clearly disclosed the experience that certain subscribers potentially could have when using their Voice-over-Internet-Protocol ("VoIP") applications with Comcast's HSI [High-Speed Internet] service."³⁰³ Comcast explained "[t]his might occur during the *690 limited times when the HSI network in a given area is experiencing congestion, and would in all likelihood affect only a subscriber who has temporarily triggered congestion management thresholds due to his or her own bandwidth consumption."³⁰⁴ Comcast added that its tests did not show a "significant change in the quality of VoIP calls, even for managed customer traffic during periods of congestion."³⁰⁵

The FCC should monitor whether Comcast's congestion management policies unduly interfere with the ability to use VoIP over the Internet or with other applications. VoIP is time-sensitive in that transmission delays may result in jittery connections reducing the sound quality and potentially delaying or interfering with emergency 911 calls.³⁰⁶ Since 2005, VoIP services have been subject to FCC rules requiring that they provide access to e-911 services, an advanced version of 911 access to emergency services.³⁰⁷ Vonage, a company that provides VoIP over the Internet, stressed that Vonage service may be a subscriber's "only way to make a 911 call in times of emergency."³⁰⁸ Vonage requested that the FCC "make it clear that any so-called network management practice that blocks or materially degrades services or applications that provide access to 911 is presumptively unreasonable."³⁰⁹

The FCC must ensure that ISP network management practices are consistent with legal requirements for VoIP e-911 access and are reasonable under the Communications Act and FCC policy.³¹⁰ Vonage recommended that the FCC "[adopt] a rebuttable presumption that network management that results in the blocking or material degradation of a service or application that competes with a service offered by the network operator (or its affiliate) is not reasonable."³¹¹ Vonage emphasized that this "presumption is particularly appropriate in the context of network management, where the information necessary to demonstrate that a *691 particular practice is reasonable is largely in the hands of the network operator."³¹²

The FTC must ensure that network management practices comport with promises about the breadth of Internet access offered and do not constitute unfair competition. Comcast's advertisements touting its own VoIP service as "facilities-based" highlight the need to be vigilant about the potential for anticompetitive conduct, in addition to the need for better disclosure and network management practices consistent with the promised scope of Internet access.³¹³

The distinction between Comcast's own voice services and VoIP provided over the Internet highlights the ISP's network architecture decisions that affect congestion and constrain Internet bandwidth. Cable-based ISPs often allocate a small portion of their bandwidth to Internet traffic as compared to the bandwidth they dedicate to their own video or voice services provided over cable. It is as if the cable company built an eight-lane highway and instead of putting the traffic median in the middle, it placed the median between lanes seven and eight, confining all Internet traffic to one lane while its video and voice services used the other lanes. While the FCC resolves other proceedings to determine if Comcast's voice services should be treated as a common-carrier service, the FCC must ensure that Comcast and other ISPs do not disadvantage competitors or Internet applications through unreasonable network management practices or conduct inconsistent with the ISP's promised breadth and extent of Internet access. Both the FTC and the FCC should prohibit ISP deception of subscribers and Internet marketplace participants.

Other ISPs are testing new systems to manage network congestion that raise similar concerns. Cox Communications is testing a system in two markets to handle congestion by classifying traffic as "time sensitive" or not; non-time-sensitive traffic is "delayed momentarily" during times of congestion.³¹⁴ On the list of non-time-sensitive traffic is P2P, as well as FTP (file transfer protocol) and software updates.³¹⁵ VoIP is classified as "time sensitive," marked to move through without delay.³¹⁶ Cox does not specify how it will handle VoIP traffic that is transmitted through P2P, such as Skype calls. Vuze asked the FCC to investigate Cox's policy as unreasonable network management and raised concern about the effect of *692 Cox's test policies on Vuze's ten million users who deploy Vuze's P2P applications to legally watch video or listen to music.³¹⁷

Additionally, Comcast's change to time- and use-based congestion management and monthly bandwidth limits may be inconsistent with promises of unfettered Internet access to customers on term contracts whose duration had not expired. Comcast's Acceptable Use Policy states that Comcast can modify that policy's terms at any time and make those

amendments effective upon posting on its website.³¹⁸ Clauses that permit contractual modifications do not shield the party making the modifications from an unfair practices claim under the FTC Act,³¹⁹ constitute a defense to an FTC Act deceptive practices claim, or exempt such modifications from other legal and equitable defenses.

The FTC has found that under certain circumstances, a unilateral attempt to modify a contract and impose those changes on existing customers is an unfair practice under the FTC Act.³²⁰ In *Orkin Exterminating Co. v. FTC*,³²¹ the Eleventh Circuit emphasized that an unfair practices claim based on a unilateral contract change “is not an action at common law for simple breach of contract. Rather it is an action under a federal statute that makes unlawful conduct causing injury to consumers that is substantial, unavoidable and without countervailing benefits.”³²²

In addition, modifications may be subject to a variety of contract defenses: first and foremost they require both parties’ assent, a condition lacking where the subscriber is not alerted to a modification posted on a website.³²³ Some jurisdictions require that contract modifications be supported by additional consideration (a bargained-for exchange of values or detriments),³²⁴ while other jurisdictions require that the modification be “fair and equitable” under unanticipated circumstances.³²⁵ One-sided attempts to modify a contract are also subject to the defense of procedural and substantive unconscionability.³²⁶

While a full exploration of the contract defenses and FTC Act unfair practices issues raised by an ISP’s attempt to modify a subscriber’s ongoing contract are beyond the scope of this Article, they highlight the limits of contract modification to cure deceptive practices. In fact, an ISP’s unilateral contract modifications may make the ISP’s practices more out of step with its initial promises that induced the subscriber to enter into a contract, substantiating an FTC Act deceptive practices claim.³²⁷

Nor do these modifications resolve whether Comcast violated the FTC Act during the time period of more than a year when Comcast explicitly targeted P2P through deep-packet inspection. “The mere discontinuation of an unlawful practice prior to law enforcement action does not deprive a court of the power to grant injunctive relief.”³²⁸ The FTC “need not show that the defendants are likely to engage in the same precise conduct found to be in violation of the law, but rather only that similar violations are likely to occur.”³²⁹

This analysis highlights the need for the FTC to engage in enforcement action to police the gulf between ISP promises and practices. The FTC should examine whether Comcast’s practices, as well as those of other ISPs, are consistent with their promises to subscribers and the marketplace.

Potential remedies for an FTC Act unfair practices violation will be analyzed in Part VI below after analyzing whether better disclosure policies would be sufficient to address the gap between ISP promises and practices. Part IV examines the limited state of ISP competition for computer users in the United States. It also examines the proliferation of restraints on the use of certain Internet applications that undermine disclosure initiatives as a substitute for FTC or FCC enforcement actions or net neutrality regulation. Part V contrasts FTC deceptive practices standards with antitrust standards to highlight the importance of FTC and FCC action in this arena.

IV. Can Better ISP Disclosure Sufficiently Protect Internet Consumers and Competition in Lieu of FTC and FCC Enforcement?

This section examines whether better disclosure in lieu of FTC or FCC regulatory action would be sufficient to address ISP network management practices in light of limited broadband competition and the nature of ISP practices. Professor Yoo argues that better disclosure by ISPs of their terms of service would obviate the need for net neutrality legislation or regulatory action.³³⁰ The FTC expressed concern about the adequacy of ISP disclosures in its 2007 Broadband Connectivity and Competition Policy Report: “Important questions involving the clear and conspicuous disclosure of material terms of broadband Internet access remain, particularly in the event that broadband providers engage in data discrimination, prioritization, or other traffic-shaping practices”³³¹ Professor Weiser suggested that the FTC “develop a consumer education and consumer protection enforcement initiative in this area.”³³² Professor Weiser advocated that the FTC promote

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“a truth-in-advertising model and encourag[e] industry self-regulation along the lines of its efforts with respect to Internet privacy.”³³³ Professor Yoo cites the FTC’s role in promoting the use of privacy policies as an example of the appropriate exercise of a consumer protection role.³³⁴

Disclosure is the linchpin of consumer protection, Professor Yoo argues, that, along with competitive incentives for network operators, will stave off the need for net neutrality regulation (or antitrust complaints) to protect competition and consumers.³³⁵ His argument assumes there is sufficient competition in the ISP market to promote practices that benefit consumers and protect competition, conditions not manifest in today’s marketplace.

Scholars who champion network neutrality, such as Professor Wu and Professor van Schewick, urge broadband carriers to more fully disclose terms of service and their limits. Professor Wu criticized Verizon Wireless for “[a]dvertising ‘unlimited bandwidth’” for customers using its wireless Internet access, “while maintaining ‘secret *695 limits’” on subscriber use of that bandwidth.³³⁶ “Advertising ‘unlimited bandwidth’ while maintaining secret limits is not acceptable,” Professor Wu stressed.³³⁷ “Consumers must receive truthful and meaningful information about their service plan.”³³⁸ Nor would such ads meet the FTC Act’s standards if subjected to a deceptive practices claim.

Disclosure and competition are often intertwined. “Competition depends on information to work. Consumers cannot make wise decisions unless they know, for example, the daily or monthly bandwidth limits on wireless broadband services,”³³⁹ Professor Wu observed. Professor van Schewick testified at the FCC’s April 2008 en banc hearing regarding broadband management practices that “[d]isclosure improves competition by enabling customers to make informed decisions when choosing providers.”³⁴⁰

Although essential, “[d]isclosure alone is not enough,” Professor van Schewick emphasized.³⁴¹ “Disclosure can only facilitate competition and discipline providers if there is effective competition. . . . [C]ustomers need to be able to switch to another provider that does not impose a similar restriction, and they need to be able to do so at low costs. In the United States, none of these conditions is currently satisfied.”³⁴² Limited competition in the broadband industry, along with the removal of common-carrier regulations, undercuts the ability of disclosure to improve consumer Internet service or ensure that Internet traffic is treated equally.³⁴³

Free Press observed that broadband marketplace conditions and bundling limit the effectiveness of disclosure:

Given the duopoly nature of the broadband marketplace and Comcast’s dominant position in that marketplace (as well as the multichannel video and on demand marketplace), simple disclosure of its deceptive network management practices are not enough. There is not enough competition to enable consumers to use their power of choice to discipline Comcast’s bad behavior. Switching costs are too high, broadband products are bundled, and Comcast (and other cable providers) are not engaging in head-to-head competition with incumbent telecom providers.³⁴⁴

The U.S. broadband marketplace for nonmobile services is dominated by a duopoly of cable-modem broadband providers and telephone-line-based providers predominantly offering DSL services.³⁴⁵ Duopoly does not offer sufficient consumer choice or competition.

***696** On the basis of the FCC’s belief that the market for high-speed Internet access was competitive, the Commission lifted nondiscrimination obligations from providers of high-speed Internet access in 2005.³⁴⁶ Professor Crawford characterized the FCC’s actions in removing nondiscrimination requirements from facilities-based ISPs as a shift “from the notion that non-discriminatory access to general-purpose communications networks is always necessary because of their public-ness and the spillover effects they create (non-discrimination presumption) to the idea that non-discriminatory requirements are only necessary where firms have monopoly power (discrimination presumption).”³⁴⁷

Professor Werbach points out that “[t]wo companies--AT&T and Verizon--control the lion’s share of the nationwide DSL access market; a small number of cable operators, led by Comcast and Time Warner, are their primary competitors.”³⁴⁸ Bill

Herman noted that in 2006, the Herfindahl-Hirschmann Index, a measure of market concentration, would have measured 5000 for most broadband markets dominated by DSL and Cable Internet Services, signifying that the market was highly concentrated.³⁴⁹

To determine the level of market concentration Internet users face, the relevant market would first have to be defined, a process borrowed from antitrust principles. Market definition is based in large part on whether *697 products are substitutes for each other.³⁵⁰ Internet access speeds advertised for cable are significantly higher than those for DSL,³⁵¹ raising the issue of whether DSL and cable-based Internet are differentiated products that compete in the same market or whether they are so distinct that they compete in separate submarkets or product markets. This important question is beyond this paper's span (and not necessary to resolve an FTC Act deceptive practices claim), but merits further scholarly and agency examination. Scholars and agencies studying this issue should analyze whether the market is tiered so that Internet users who demand lower speeds would consider DSL and cable-based Internet service to be substitutes, keeping in mind that other ISP practices such as bandwidth and application restrictions may also affect substitutability. They should also examine whether Internet users who want higher speeds and more bandwidth for extensive use of applications such as video or P2P perceive DSL and cable-based Internet service as substitutes. Advertising representations and ISP practices shape consumer perception and willingness to switch in the face of a price increase of one service, factors relevant to the inquiry into substitutability and market definition.

Advertisements draw customers to cable's claims about its peak Internet speeds, although the shared bandwidth of cable-modem-based Internet results in slower average speeds, especially during peak periods when multiple users in a neighborhood are trying to access the Internet.³⁵² Even if a consumer wanted to switch to a DSL provider, the consumer might not understand that representations about cable-modem Internet speeds represent peak speeds, whereas the advertised speed of a DSL connection is both its peak and its average.³⁵³ Others who want to use applications that require sustained data rates above DSL's average speeds may not see DSL as a substitute, even though cable's peak speeds are no guarantee of *698 sustained or average speed. Customers who do not understand or have enough information to make this distinction may be deterred by DSL's slower theoretical speeds.

Better disclosure may help consumers make this distinction. Professor Weiser recommended "companies should inform consumers of the effective level of bandwidth (as opposed to a hypothetically possible level of bandwidth) provided by their broadband connection."³⁵⁴ I concur that more accurate representations about the speed and level of service offered would help consumers and courts determine whether DSL is a substitute for cable-modem-based Internet and competes in the same relevant market.

Even if cable and DSL were substitutes for some consumers, many American households could obtain high-speed access to the Internet only via cable-modem or DSL, but not through both. The FCC found that as of June 2008, cable modem high-speed Internet service was available in only 67% of U.S. zip codes.³⁵⁵ The FCC found that 37% of U.S. zip codes in June 2008 did not report both cable-modem and DSL subscribers.³⁵⁶ In those markets, consumers wanting high-speed broadband access for their personal computer faced an effective monopoly provider, leaving them no workable alternative.³⁵⁷ That lack of competition or choice limits the effectiveness of disclosure as a tool to protect consumers or competition.

Verizon's FIOS and AT&T's Uverse Internet service using fiber optic cables are available in limited areas.³⁵⁸ As of August 2009 FIOS did not *699 impose bandwidth limits, but its acceptable use policy prohibits subscribers from generating excessive Internet traffic, a level it does not define.³⁵⁹

According to the FCC, mobile wireless Internet grew to 35% of the market for high-speed Internet lines by June 2007 under the FCC's assumption that the relevant market should be defined by the single characteristic of minimum speed.³⁶⁰ This assumption ignores the fact that carrier policies limit consumer ability to substitute mobile wireless for terrestrial Internet services, especially for those who want to use P2P, video, or computers.³⁶¹ Several wireless ISPs require separate plans to allow a mobile phone to be linked (tethered) to a computer to provide computer Internet access over their network.³⁶² Other mobile providers contractually limit or prohibit use of P2P applications.³⁶³ Sprint Mobile Broadband offers up to 5 gigabytes or 300 megabytes of data a month with additional usage at five cents a megabyte.³⁶⁴ Sprint also reserves the right to limit data

“throughput or the amount of data you can transfer” or to “limit or suspend any heavy, continuous data usage that adversely impacts our network performance or hinders access to our network.”³⁶⁵ Sprint promised in 2008 that its WiMax-based Internet service being deployed would be an “open Internet model” without restrictions on applications.³⁶⁶ Yet, its terms of use state that it may use “various tools and techniques designed to limit the bandwidth available for certain bandwidth intensive applications or protocols, such as file sharing.”³⁶⁷

***700** The iPhone limits subscriber ability to download Internet applications to only those approved by Apple and available on the iPhone store.³⁶⁸ The FCC is investigating why Apple did not approve Google’s voice application for the iPhone.³⁶⁹ Apple permits subscribers to use an application from Sling Media that allows users to watch on their iPhone television programs transmitted from a Slingbox on Wi-Fi networks only, rather than the AT&T network on which iPhone runs.³⁷⁰ In October 2009 Apple reversed its policies that constrained iPhone subscriber use of Skype to Wi-Fi networks, which limited subscriber ability to substitute Internet applications for AT&T’s phone service.³⁷¹ These carrier-imposed restrictions indicate that wireless phones or smart phones are complements, not substitutes for wireline or cable Internet access.

Satellite-based Internet requires a clear view of the southern sky, a vantage point many Internet users do not enjoy.³⁷² Satellite Internet also suffers from latency, “the amount of time it takes a packet of data to travel across a network. With satellite service, that data must travel up to the satellite and back (about 45,000 miles).”³⁷³ HughesNet advises users that these levels of latency make its satellite-based Internet service unsuitable for some applications such as VoIP and other real-time applications such as video conferencing.³⁷⁴

HughesNet’s satellite-based Internet service limits the amount of data that users may download daily, varying with the level of service purchased.³⁷⁵ HughesNet states that “[s]ubscribers who exceed that threshold will experience reduced download speeds for approximately 24 hours. During this recovery period, the HughesNet service may still be used, but speeds will be slower If they continue these activities during this recovery period, reduced download speeds may continue beyond 24 hours.”³⁷⁶ HughesNet’s rolling 24 hour delays raise questions about whether its actions fall within the FCC’s policy for reasonable network management and whether HughesNet will apprise customers of those delays.

***701** Competition may be on the distant horizon but is not yet a reality for most people who want to connect their computers to the Internet. Nor do mobile phones provide a competitive check on ISP practices in light of their limited computing functions and wireless ISP constraints on Internet access and application downloads. The current state of limited competition and the proliferation of ISP restraints against certain Internet applications enfeeble disclosure as a substitute for FTC Act or Communications Act enforcement.

In accordance with FTC guidelines, subsequent disclosures cannot cure the failure to make full disclosure of ISP policies and practices that materially undermine representations designed to entice subscription. Even if full disclosure was made at the time of subscription about the partial Internet access offered and ISP methods of patrolling access, the FTC should examine such restraints to determine if they constitute unfair competition or violate the antitrust laws, and are consistent with the ISP’s marketing representations, while the FCC should determine whether they are lawful under the Communications Act.

V. Qualified Refusals To Deal, Unfair Competition, Antitrust and FTC Act Deceptive Conduct Standards

FTC Commissioner Rosch questioned whether ISP prohibitions against use of a particular Internet protocol may be characterized as a “refusal to deal,” creating a defense to an unfair competition claim under the FTC Act or a Sherman Act antitrust claim.³⁷⁷ “Refusals to deal” have been interpreted to allow parties to choose with whom they will do business.³⁷⁸ The Supreme Court has observed that the “Sherman Act ‘does not restrict the long recognized right of [a] trader or manufacturer . . . to exercise his own independent discretion as to parties with whom he will deal.’”³⁷⁹

In two cases involving telecommunications companies, the Supreme Court has distinguished between an “antitrust duty to deal,” or the lack ***702** thereof, and compelled access or sharing forced by FCC regulations.³⁸⁰ In *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko*, the Court found that a telephone company had no duty to deal based in antitrust

law--the antitrust laws did not compel dealing with another company on preferable terms or even the provision of sufficient service, absent a showing of abuse of monopoly power.³⁸¹ Trinko held that “insufficient assistance in the provision of service to rivals is not a recognized antitrust claim under . . . existing refusal-to-deal precedents.”³⁸² In *Pacific Bell Telephone v. Linkline Communications, Inc.*,³⁸³ the Court held that a telephone company faced with an independent ISP’s request for access to the telephone network to offer customers independent Internet service had “no antitrust duty to deal with its rivals at wholesale [in the wholesale market]; any such duty arises only from FCC regulations, not from the Sherman Act.”³⁸⁴

Trinko recognized that a refusal-to-deal claim may be cognizable where the defendant had previously “engaged in a course of dealing with its rivals, or would ever have done so absent statutory compulsion” and other elements of an antitrust claim are met.³⁸⁵ For Comcast, neither the announcement of “unfettered access to all the content, services and applications that the internet has to offer”³⁸⁶ nor protocol-agnostic congestion management policies communicate a refusal to deal with any lawful Internet protocol or application provider. Similarly, AT&T’s promise of “unlimited messaging and unlimited data for your BlackBerry to connect you with your world, including your email, contacts, the web and more”³⁸⁷ does not announce a refusal to deal. Broad promises of Internet access imply the opposite; the ISP will deal. Comcast’s pattern of allowing use of P2P prior to revelations of its use of resets in early 2007 may also establish a course of dealing.³⁸⁸ Announcements of unlimited messaging, *703 data, and Internet access indicate a willingness to deal, though the ISP’s contracts suggest latitude to do otherwise.

Professor Weiser argues that better disclosure would theoretically not only improve consumer service, “but application providers will be in a better position to manage their offerings and compete based on an understanding of how the marketplace is evolving.”³⁸⁹ Application developers are harmed not only by the lack of clear disclosure of network management policies, but also by practices that contradict promises of open access to the marketplace.

For an FTC Act deceptive conduct claim, a clear, conspicuous announcement of a “refusal to deal,” consistent with and proximate to prominent representations of the limited service offered (a practice not in evidence in today’s ISP marketplace) might constitute a defense to a deceptive practices claim. The FTC Act requires that disclosures prominently and conspicuously in relation to the advertising claims inform and warn consumers about the limited service offered.³⁹⁰ These requirements are not met by either vague reservations of the right to engage in network management, or by specific limits on the use of Internet applications separated by placement, proximity, and inconspicuousness from bold promises of unlimited or unfettered Internet access.

In many cases, consumers and application developers face fine print restrictions limiting use of some Internet applications, contradicted by ISP advertising promises of unlimited Internet or data access.³⁹¹ This disjunction leaves both subscribers and application developers uncertain about ISP promises and policies and unable to manage around them.

Additionally, the right to refuse to deal with other firms is not unqualified.³⁹² The potential anticompetitive harms from any such clearly announced refusals to deal may be analyzed under the Sherman Act or the FTC Act’s unfair competition provisions, which require that the service *704 provider have market or monopoly power in the relevant market, or that it arise from a conspiracy, as required by the cause of action pleaded.³⁹³ In an antitrust case based on a theory other than conspiracy, if the plaintiff were to carry her burden of proving such market power and anticompetitive harm from the practice, the defendant would have the burden of showing a procompetitive justification, which the plaintiff must then rebut.³⁹⁴ Determining whether any ISP has market or monopoly power largely rests on how the relevant market is defined. That project lies beyond this Article’s focus but should be illuminated by the FCC’s examination of the broadband market.³⁹⁵

Harm to Internet application providers from ISP practices that disfavor certain Internet protocols may also be examined under the FTC Act’s prohibitions of “[u]nfair methods of competition.”³⁹⁶ If the ISP in question *705 had monopoly power in the relevant geographic and product market, Internet application developers may stand in a similar position to the software developers who used Microsoft’s Java tools to write programs they believed would run on Java and create a competitive platform.³⁹⁷ Instead those Microsoft tools created applications that would only run on Microsoft’s Windows operating system.³⁹⁸ The D.C. Circuit held that Microsoft’s conduct with regard to its Java tools was deceptive and violated Section 2 of the Sherman Act.³⁹⁹ As the Java tools example highlights, an analysis of the relevant antitrust market, monopoly power,

market power, and the potentially anticompetitive and deceptive effect of ISP use of resets, application- or bandwidth-based slowdown techniques, and deep-packet inspection merits regulatory examination and additional scholarly analysis.

Jerry Brito and Jerry Ellig recommend that “regulators should apply the antitrust ‘rule of reason’ analysis to these restrictive business practices.”⁴⁰⁰ Such analysis would require the FTC or the FCC to define the relevant market and determine if the firm whose practices are being challenged has market or monopoly power before weighing the harm and justifications for those practices.⁴⁰¹ Brito and Ellig suggest that the “FTC could conduct enforcement activities under the Federal Trade Commission Act, whereby practices alleged to violate net neutrality would be analyzed under the antitrust rule of reason.”⁴⁰² Similarly, Jonathan Nuechterlein argues that the Department of Justice and the FTC are best positioned to resolve net neutrality disputes based on competition and antitrust policy.⁴⁰³

The legal inquiry into whether Comcast’s, or any other ISP’s, Internet access promises are deceptive under the FTC Act rests on a different legal theory and standards than antitrust policy based on abuse of market or monopoly power or the FTC’s unfair competition standards. The Communications Act and FCC rules also create different legal duties and standards, as the Supreme Court recognized in *Linkline*.⁴⁰⁴ Allegations of deceptive ISP conduct highlight the potential for ISP interference with Internet content and use that is at the heart of the net neutrality debate.

An examination of the relevant market and proof of market or monopoly power are not prerequisites for an FTC Act deceptive practices claim, an FTC Act unfairness claim, or enforcement under the Communications Act and other FCC regulations. In banning deceptive, as well as unfair, practices, Congress recognized that in transactions in which consumers do not get what they were promised, consumers could be hurt by deceptive and unfair conduct before a firm has monopoly or market power. In addition, the FTC Act’s unfair competition standard is broad and was added as a *706 complement to the Sherman Act to reach trade practices that harmed consumers and competition.⁴⁰⁵

These distinctive standards highlight the limits of ex post antitrust enforcement to discipline competitors in markets characterized by limited competition. Whether or not ISP market or monopoly power is proven, the FTC and the FCC can and should address harm to consumers, competition, and the public interest caused by deceptive practices.

VI. FTC Act Deceptive Practices Claim: Proposal for Injunctive Relief and Equitable Remedies To Redress Deceptive ISP Network Management Conduct

Half the truth is of no use. Give it all, give it all to me.⁴⁰⁶

As a case study of the FTC Act’s deceptive conduct proscriptions as a limit on ISP practices, this analysis highlighted the contradictions between Comcast’s promises of unfettered Internet access and its furtive practices that delayed certain Internet applications. The FTC must determine whether Comcast’s representations, as well as those of other ISPs, were deceptive in light of the broad level of Internet access offered and vague disclosures contained in separate documents. FTC inquiry and enforcement in this area would emphasize the need for ISP conduct consistent with promises to the marketplace.

The FTC is empowered to issue injunctions to stop misleading conduct.⁴⁰⁷ That injunction should prohibit advertisement of “unlimited” or “unfettered” Internet access or other words that communicate a similar breadth of Internet access, unless that is what the ISP actually provides. The FTC should declare that advertising unlimited data or Internet access while elsewhere limiting uses of legal Internet applications or bandwidth is deceptive. The FTC should take enforcement action against ISPs who violate that principle and initiate enforcement under the FTC Act to redress harms to consumers and Internet application developers from deceptive practices that do not comport with an ISP’s promises.

Karl Bode, a commentator on Internet policy, emphasized that “advertising a limited service as unlimited is still false advertising.”⁴⁰⁸ *707 Bode quipped, “Sign me up for the \$75 ‘granny usage EXTREME’ 600kbps tier with 5GB monthly cap and \$1/per GB overages if you must. Just don’t lie to me.”⁴⁰⁹ If an ISP imposes significant use limits, whether based on

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bandwidth consumption at any time period (which should be specified) or limits against any Internet applications or protocols or other significant restrictions, the FTC should enjoin the ISP from advertising its Internet service or minutes of use as unlimited, unfettered, unrestricted, and the like.

Nor should reservations of rights to manage the network at the ISP's discretion be permitted to circumvent promises of broad access. The FTC should also make clear that ISPs may not attempt to contract away user rights under the FTC Act and the FCC should do the same regarding rights under the Communications Act and FCC policy.

ISPs should be required to disclose their network management policies in sufficient detail so that when a consumer purchases ISP service, that consumer is well-informed about the type and level of Internet service they will receive and how their Internet traffic will be treated. Internet marketing representations designed to entice subscribers are also representations to the marketplace, including applications developers, of the type of Internet service offered and how applications will be treated. Participants in the Internet's two-sided marketplace must be informed of ISP policies and not subject to surreptitious interference. Such disclosure must go beyond reservations to do whatever the ISP believes is reasonable in its sole judgment. Declarations that the ISP may modify its practices or limit user rights in the future are also insufficient. Disclosure must be consistent with the level and breadth of service the ISP promised to subscribers at the time the contract was made.

Free Press, the public interest organization that petitioned the FCC to rule on whether Comcast's activities violated FCC rules, has called on the FCC to initiate a Notice of Proposed Rulemaking "requiring all broadband service providers to disclose in detail any network activities that monitor or interfere with any level of communications by end users to access or share lawful content and applications on the Internet."⁴¹⁰ That FCC notice should propose that ISPs disclose their specific network and Internet use monitoring, traffic "shaping," bandwidth, or application delay policies to enable consumer choice, evaluate the effect of those policies on competition and the Internet's development, and determine whether those practices are consistent with the type and extent of Internet access the ISP promised.

Even though Comcast's new congestion policy is touted as protocol-agnostic, it is likely to trigger delays for certain applications on the basis of *708 bandwidth consumption.⁴¹¹ The inability of a subscriber or application developer to predict the timing and nature of these delays indicates that the proposed system has not resolved the issue of whether such practices are deceptive in light of the ISP's representations.

Increasing transparency in the scope of Internet service offered and ISP network management practices is important.⁴¹² Disclosure policies must, however, be coupled with FTC enforcement of laws prohibiting deceptive and unfair practices and unfair competition, and FCC enforcement of the Communications Act.

The deceptive use of practices such as deploying reset messages to block or delay applications in the name of "network management" defy disclosure as a means to improve consumer choice or competition and require the FTC to condemn such practices and seek restitution for those harmed thereby. Disclosure sufficient to warn consumers, Internet application developers, and competitors about the use of resets, slowdown policies, and deep-packet inspection is difficult to conceive. Techniques designed to be clandestine and to deflect attention from the ISP as the source of interference or delays cannot be papered over by disclosure. Judge Frank H. Easterbrook quoted Arthur C. Clarke, who said that "[a]ny sufficiently advanced technology is indistinguishable from magic" by those who do not understand its principles.⁴¹³ Resets may seem more like a spell than magic. That technique when abused to "manage networks" is pernicious, deceptive, and anticompetitive. The nefarious nature of resets when used to delay certain Internet applications defies meaningful disclosure. No amount of disclosure that resets or similar techniques may be used should constitute a defense to claims under the FTC Act, the Communications Act, or the Sherman Act.

The FTC may seek restitution and other equitable damages to compensate consumers for harm.⁴¹⁴ "The appropriate measure for *709 restitution is the benefit unjustly received by the defendants."⁴¹⁵ Those consumers who were not provided the Internet access they were promised should be awarded restitution of the benefit of the fees they paid that were not reflected in the service provided. The FTC has discretion to frame its orders broadly to prevent the defendants from engaging in similar deceptive practices in the future.⁴¹⁶ The FCC's decision not to fine Comcast for its network practices⁴¹⁷ emphasizes the need

for FTC action to obtain restitution and other appropriate relief.

The legal analysis of ISP refusal-to-deal policies highlights the line between the FTC's jurisdiction and the FCC's role in net neutrality and network management. The deceptive conduct provisions of the FTC Act, as well as the Communications Act, do not require a showing of monopoly or market power and recognize that both consumers and the marketplace may be harmed by practices left unchecked before such power is attained. The FTC must act to stop marketplace deception, and use its legal authority to obtain injunctive relief and seek restitution, where appropriate. The FTC should also declare that ISP advertisements of unlimited data or Internet access violate the FTC Act's deceptive conduct provisions when the ISP's material limits on Internet use are not prominently highlighted in the ISP's enticements to subscribers. The FCC should analyze ISP policies and practices under the Communications Act and FCC rules to determine if they constitute unreasonable network management or serve Congress's goals of promoting the Internet's development, and should also prohibit deceptive marketing. While a full exploration of the theories, law, and policy that should guide the FCC in the examination of ISP network management policies and broadband industry practices is outside of this Article's scope, the FCC should examine Vonage's suggestion that it "[a]dopt a rebuttable presumption that network management that results in the blocking or material degradation of a service or application that competes with a service offered by the network operator (or its affiliate) is not reasonable."⁴¹⁸ The FCC should also examine whether refusals to deal are unlawful under the Communications Act in its proceeding on broadband marketplace practice.⁴¹⁹ This proceeding must examine current prohibitions on the use *710 of P2P and other applications to determine whether they comport with the Communications Act.

Both the FTC and the FCC play distinctive and complementary roles in ensuring that ISPs do not manipulate their control over a consumer's physical access to the Internet to harm consumers, competition, or the public interest. The FTC needs to follow the FCC's lead and exercise its jurisdiction over ISPs to ensure that consumers get the scope and level of Internet access ISPs promised and that ISP conduct does not harm competition or deceive Internet application developers and providers.

VII. Conclusion

This Article has analyzed a case study of potential FTC Act claims against Comcast to illustrate the deceptive nature of some ISP practices in contrast to their promises. FTC enforcement in this arena would deter deceptive and unfair practices through the threat and imposition of injunctions and monetary penalties. Decisive action is needed by the FTC and the FCC to ensure that deep-packet inspection, resets, slow lane detours, and similar methods do not undermine ISP promises about the nature of Internet access offered or limit choice and competition.

While ISP practices shifted in 2009 from resets to slow lane detours of high-bandwidth applications such as video, the imperative of stopping and redressing deceptive practices remains the same. The FTC must take action to stem deceptive and unfair ISP practices to close the gap between ISP marketing promises and practices. Concurrently, the FCC must define the limits of reasonable network management and determine whether ISP refusals to deal are consistent with that standard.

This Article has argued that improving ISP disclosure about the extent and breadth of Internet access offered is a necessary but insufficient step to *711 guarantee that the Internet will remain open to all lawful applications. Disclosure is not a panacea to improve Internet service or speed in light of limited Internet competition and the prevalence of ISP embargos on use of certain applications.

ISP ability and willingness to harness control over Internet access to constrain consumer use of lawful Internet applications highlights the importance of FCC and FTC regulation in this arena. Professor Yoo argued that the Internet and its users would be better served by "[a]bandoning ex ante prohibition in favor of an ex post, case-by-case approach [that] would provide the breathing room for experimentation upon which technological and economic progress depend."⁴²⁰ Professor Weiser echoed these sentiments, writing that "the future of telecommunications regulation is for the FCC to reorient its mission to evaluating conduct after the fact using antitrust-like standards."⁴²¹

Innovative and potentially beneficial Internet applications may die on the vine awaiting agency ex post enforcement of consumer protection or antitrust laws. This is particularly so because antitrust and unfair competition enforcement reaches only those with demonstrated market or monopoly power, unless the defendant is charged with a conspiracy to violate the antitrust laws.⁴²² Consumers, including those locked into a contract whose terms keep changing, deserve protection against deceptive and unfair practices under the FTC Act and violations of the Communications Act, whether or not their ISP has market or monopoly power.

The market power requirement rests on the theory that competition allows consumers to choose alternatives and disciplines business practices. Limited competition for broadband services and the growth of restrictions on the use of certain Internet applications indicate that competition alone (in a market that is not very competitive) cannot protect Internet consumers, application developers who use the Internet to bring their services to consumers, and competition itself.⁴²³ Nor will industry self-regulation, in what is at best a duopolistic or oligopolistic market where ISPs have ***712** incentives to favor their traditional sources of revenue, substitute for FTC or FCC action.

Limited competition tends to reinforce rather than restrain deceptive or anticompetitive conduct. While creating more competition is part of the long-term solution, the FTC and the FCC must make sure those competitors do not simply adopt the same restrictive policies that contradict promises of open Internet access.

The gap between ISP promises and practices must be closed. The FTC and FCC must prohibit deceptive ISP practices, including those that deflect blame to Internet applications for the ISP's network design and management decisions. The future of the Internet as a means to communicate, disseminate ideas and information, and strengthen democratic engagement will be profoundly shaped by whether ISPs are allowed to limit use of lawful Internet applications and become the Internet's gatekeepers.

Footnotes

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¹ Lewis Carroll, *Through the Looking Glass* 106 (Schocken Books 1987) (1872).

² See Internet Bureau, Att'y Gen. of the State of N.Y., In the Matter of Verizon Wireless: Assurance of Discontinuance (2007) [hereinafter Verizon Assurance of Discontinuance], available at http://www.oag.state.ny.us/media_center/2007/oct/Verizon%20Wireless%20AOD.pdf (requiring that Verizon cease advertisements describing its Data Access Plan as "unlimited" when it imposed significant limits and requiring restitution to affected consumers); Complaint P 40, Hart v. Comcast of Alameda, Inc., No. RG 07355993 (Cal. Super. Ct. Nov. 13, 2007) [hereinafter Hart Complaint] (on file with the author); AT&T, Messaging & Data, <http://www.wireless.att.com/cell-phone-service/services/services-list.jsp?catId=cat1470003&LOSGId=&catName=Messaging+%26+Data&requestid=100281> (enter zip code to obtain data plan information) (last visited Oct. 3, 2009) [hereinafter AT&T, Messaging & Data].

- ³ See [Formal Complaint of Free Press & Public Knowledge Against Comcast Corp. for Secretly Degrading Peer-to-Peer Applications](#), 23 F.C.C.R. 13,028, 13,059 (2008) [hereinafter FCC Comcast Order] (concluding that Comcast's interference with peer-to-peer (P2P) and other applications did not constitute reasonable network management); Verizon Assurance of Discontinuance, *supra* note 2, para. 5 (stating that Verizon Wireless's terms and conditions provided that customers could not use Verizon Wireless's Data Access Plan to download movies, music, or games); AT&T, Wireless Data Service Terms and Conditions, <http://www.wireless.att.com/learn/messaging-internet/media-legal-notice.jsp> (last visited Oct. 4, 2009) [hereinafter AT&T, Wireless Data Service Terms and Conditions] ("While most common uses for Intranet browsing, email and intranet access are permitted by your [AT&T] data plan, there are certain uses that cause extreme network capacity issues and interference with the network and are therefore prohibited.... includ[ing]... peer-to peer (P2P) file sharing....").
- ⁴ FCC Comcast Order, *supra* note 3, at 13,028, 13,030-31; see also [Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.](#), 545 U.S. 913, 919-20 (2005) (peer-to-peer software connects a computer user to a peer-to-peer network and makes any shared files available for transfer to any other user currently connected to the same peer-to-peer network, without requiring the use of a central server).
- ⁵ Tim Wu, [Network Neutrality, Broadband Discrimination](#), 2 J. Telecomm. & High Tech. L. 141, 145-46 (2003) (defining net neutrality as the principle that the networks that carry Internet traffic should be neutral as among Internet applications). The Congressional Research Service acknowledged there is no single accepted definition for net neutrality, but stated that most agree it should include the principle that "owners of the networks that compose and provide access to the Internet should not control how consumers lawfully use that network[] and should not be able to discriminate against content provider access to that network." Angele A. Gilroy, CRS Report for Congress, Net Neutrality: Background and issues 1-2 (2008), available at <http://www.fas.org/sgp/crs/misc/RS22444.pdf>.
- ⁶ 15 U.S.C. §§ 41-77 (2006).
- ⁷ See Thomas J. Fallon, *The Internet Today* 21 (2001) ("ISPs, online service providers ... are directly connected to the [Internet] backbone, providing a connectivity front end for virtually everyone else.").
- ⁸ See Anthony E. Varona, [Toward a Broadband Public Interest Standard](#), 61 Admin. L. Rev. 1, 135 (2009) (advocating a public interest standard that "valorizes" broadband Internet as "a vital tool for enhancing democracy; for enfranchising, engaging, and informing a diverse electorate; and for enriching civic life").
- ⁹ FTC Staff Report, *Broadband Connectivity, Competition Policy* 9, 122 (2007) [hereinafter FTC Broadband Report] ("FTC jurisdiction over broadband comes chiefly from its statutory mandate to prevent 'unfair methods of competition' and 'unfair or deceptive acts or practices in or affecting commerce'...." (citing 15 U.S.C. §§ 41-77)).
- ¹⁰ See FCC Comcast Order, *supra* note 3, at 13,030-31 & n.14.
- ¹¹ See [Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.](#), 545 U.S. 913, 920 (2005).
- ¹² See Press Release, Pando Networks, NBC Selects Pando Networks To Power TV Downloads (Feb. 27, 2008), <http://www.pandonetworks.com/node/74>.
- ¹³ Hart Complaint, *supra* note 2, P 40.
- ¹⁴ AT&T, *Messaging & Data*, *supra* note 2; see AT&T, Wireless Data Service Terms and Conditions, *supra* note 3 ("[C]hecking email, surfing the Internet, downloading legally acquired songs, and/or visiting corporate intranets is permitted, but downloading

movies using P2P file sharing services... is prohibited.”).

¹⁵ AT&T, Wireless Data Service Terms and Conditions, *supra* note 3.

¹⁶ Todd Spangler, Cox Accused of Blocking P2P, Too, Multichannel News, May 15, 2008, http://www.multichannel.com/article/89340-Cox_Accused_Of_Blocking_P2P_Too.php; see *Lyons v. Coxcom, Inc.*, No. 08-CV-02047-H(CAB), 2009 WL 347285 (S.D. Cal. Feb. 6, 2009) (granting motion to dismiss complaint with leave to amend alleging that Cox advertised fast internet speeds but limited or stopped P2P transmissions in violation of state law consumer protection acts and laws prohibiting false and misleading advertising, unfair acts, or practices, and the federal Computer Fraud and Abuse Act).

¹⁷ Cox Communications, Congestion Management FAQs (Feb. 13, 2009), <http://www.cox.com/policy/congestionmanagement/>.

¹⁸ *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 1000 (2005); see *infra* Part II.

¹⁹ *Nat’l Cable & Telecomm. Ass’n*, 545 U.S. at 1000-01.

²⁰ Kevin Werbach, *Breaking the Ice: Rethinking Telecommunications Law for the Digital Age*, 4 J. Telecomm. & High Tech. L. 59, 92 (2005). The FCC found that Comcast used deep-packet inspection to identify P2P sessions. FCC Comcast Order, *supra* note 3, at 13,050-51; PeerApp, PeerApp White Paper: Accelerating the Video Internet 6 (2008) [hereinafter *Accelerating the Video Internet*], available at http://www.peerapp.com/Data/Files/Accelerating_the_Video_Internet_PeerApp_Ltd_January_2008.pdf (stating ISPs use deep-packet inspection products to “sort out what applications are running over their networks, so ISPs can fully understand the traffic demands of each application, and then manage or ‘shape’ the traffic accordingly.”).

²¹ *Turner Broad. Sys. v. FCC*, 512 U.S. 622, 656 (1994) (upholding regulations that require cable companies to carry the signals of over-the-air broadcasters to preserve competition in light of cable’s bottleneck control that enables them to exclude broadcasters).

²² Comments of Comcast Corp. at 39, Broadband Indus. Practices, No. 07-52 (Fed. Commc’ns Comm’n Feb. 12, 2008) [hereinafter *Comcast Comments*].

²³ See AT&T, *Messaging & Data*, *supra* note 2 (prohibiting peer-to-peer file sharing as an example of prohibited “Intranet” use); AT&T, Wireless Data Service Terms and Conditions, *supra* note 3 (prohibiting subscriber use of peer-to-peer file sharing).

²⁴ Letter from Christopher Libertelli, Senior Dir., Gov’t & Regulatory Affairs, Skype, to Kevin Martin, Chairman, FCC (Oct. 8, 2008) (requesting that the FCC act on Skype’s petition for rulemaking, RM 11361 (2007), contending that most wireless network operators “continue to restrict VoIP and or P2P applications on their network,” and requesting that the FCC require wireless operators to open their networks to all legal applications).

²⁵ AT&T, iPhone 3GS?16 GB Cell Phone Package, http://www.wireless.att.com/cell-phone-service/packages/packages-details.jsp?q_sku=sku3790233&q_package=sku3790236 (follow link to data plan for iPhone) (last visited Oct. 4, 2009).

²⁶ AT&T, Plan Terms, http://www.wireless.att.com/cell-phone-service/packages/packages-details.jsp?q_sku=sku3790233&q_package=sku3790236 (enter zip code, then scroll to the bottom of the following page and click hyperlink to “Plan Terms”) (last visited Oct. 3, 2009).

[hereinafter AT&T, Plan Terms].

- ²⁷ Sandvine Inc., *The Value of Traffic Optimization in a World with Network Neutrality* (2008) [hereinafter *Traffic Optimization*], available at http://www.sandvine.com/downloads/documents/Traffic_Optimization_Whitepaper_May_2008.pdf.
- ²⁸ PeerApp, *Solutions: Transit Link Growth*, <http://www.peerapp.com/solutions-managing-transit-link-growth.aspx> (last visited Oct. 3, 2009) [hereinafter *Transit Link Growth*].
- ²⁹ Christopher Yoo, *Network Neutrality, Consumers, and Innovation*, 2008 U. Chi. Legal F. 179, 192 (citing Press Release, Ellacoya Networks, *Ellacoya Data Shows Web Traffic Overtakes Peer-to-Peer (P2P) as Largest Percentage of Bandwidth on the Network* (June 18, 2007)); Nate Anderson, *The YouTube Effect: HTTP Traffic Now Eclipses P2P*, *Ars Technica*, June 19, 2007, <http://arstechnica.com/old/content/2007/06/the-youtube-effect-http-traffic-now-eclipses-p2p.ars>.
- ³⁰ Yoo, *supra* note 29, at 192.
- ³¹ PeerApp, *Solutions: Download Byte Caps*, <http://www.peerapp.com/solutions-managing-unlimited-bandwidth.aspx> (last visited Oct. 3, 2009).
- ³² *Transit Link Growth*, *supra* note 28.
- ³³ See, e.g., Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 *Harv. J.L. & Tech.* 85, 101 (2003) (identifying incentives to undermine an application that can compete with the ISP's core platform as an exception to the principle that ISPs will tend to "internalize complementary efficiencies"); Brett Frischmann & Barbara van Schewick, *Network Neutrality and the Economics of an Information Superhighway: A Reply to Professor Yoo*, 47 *Jurimetrics J.* 383, 411 (2007) (arguing that limited competition and incentives to keep secondary market revenues create incentives for ISPs to discriminate); James B. Speta, *Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*, 17 *Yale J. on Reg.* 39, 84 (2000) (asserting that where network effects are strong as in the broadband market, "even a monopolist will have the incentive to encourage a wide variety of information services in order to increase subscribership."); Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 *Geo. L.J.* 1847, 1888 (2006) (contending that network owners have an incentive to support complementary innovation that would increase the value of their networks). "A monopolist generally has no incentive to 'extend' or 'leverage' its monopoly into the market for complementary goods, because to do so would diminish consumer demand for the monopoly good," decreasing total profits. Speta, *supra*, at 84.
- ³⁴ Becky Worley, *Cancel Your Cable and Still Watch Great TV*, ABC News, Good Morning America, Jan. 30, 2009, <http://abcnews.go.com/GMA/Economy/Story?id=6764960&page=1>.
- ³⁵ FCC Comcast Order, *supra* note 3, at 13,028, 13,046-47; see Communications Act of 1934, 47 U.S.C. §§ 151-615(b) (2006); Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified at 47 U.S.C. § 157, 47 U.S.C. § 230(b) (2006)) (amending the Communications Act of 1934); Press Release, FCC, *FCC Adopts Policy Statement*, (Aug. 5, 2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260435A1.doc. The FCC's 2005 Internet policy statement articulated four principles to "encourage broadband" and promote an "open and interconnected" Internet. *Id.* Those principles declared the following: "consumers are entitled to access the lawful Internet content of their choice;... consumers are entitled to connect their choice of legal devices that do not harm the network;... and... consumers are entitled to competition among network providers, application and service providers, and content providers." *Id.*
- ³⁶ See FCC Comcast Order, *supra* note 3, at 13,052-53.

³⁷ Id. at 13,031-32.

³⁸ Id. at 13,055-56, 13,058-59 (“Many consumers experiencing difficulty using only certain applications will not place blame on the broadband Internet access service provider, where it belongs, but rather on the applications themselves, thus further disadvantaging those applications in the marketplace.”).

³⁹ Comcast Corp. v. FCC, No. 08-1291 (D.C. Cir. filed Sept. 4, 2008); see Barbara Esbin & Adam Marcus, “[The Law is Whatever the Nobles Do](#)”: Undue Process at the FCC, 17 *CommLaw Conspectus* 535, 554 (2009) (arguing that the FCC does not have ancillary authority under Title I of the Communications Act for its Comcast order and that the FCC’s Internet policy statement was not adopted through proper administrative procedures). The FCC announced that at its October 22, 2009, Commission meeting it will consider a “Notice of Proposed Rulemaking on policies to preserve the free and open Internet.” Press Release, FCC, FCC Announces Tentative Agenda for Oct. 22nd Open Meeting (Oct. 5, 2009), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293833A1.doc. The FCC Chairman proposed that the Commission request comments on formally adopting principles governing Internet regulation, four of which affirm that consumers must be able to access lawful Internet content, applications, and services of their choice, and attach nonharmful devices to the network,” supra note 35, and that the Commission ask for comments on two additional principles to “prevent Internet access providers from discriminating against particular Internet content or applications, while allowing for reasonable network management,” and to “ensure that Internet access providers are transparent about the network management practices they implement.” Press Release, FCC, FCC Chairman Julius Genachowski Outlines Actions To Preserve the Free and Open Internet (Oct. 5, 2009), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293567A1.doc.

⁴⁰ FCC Comcast Order, supra note 3, at 13,037-44. The FCC declared that it based its jurisdiction to sanction Comcast’s actions on statutory directives and authority, including Section 1 of the Communications Act of 1934, which “directs the Commission ‘to make available, so far as possible, to all the people of the United States... a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.’” Id. at 13,036 (quoting 47 U.S.C. §151). The FCC emphasized the Supreme Court’s recognition in *NCTA v. Brand X* that “‘the Commission has jurisdiction to impose additional regulatory obligations [on information service providers] under its Title I ancillary jurisdiction to regulate interstate and foreign communications,’” and that “‘the Commission remains free to impose special regulatory duties on facilities-based ISPs under its Title I ancillary jurisdiction.’” Id. at 13,035 (quoting *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 996 (2005)). The FCC also grounded its authority to reprimand Comcast’s tactics on several provisions of the 1996 Act, including 47 U.S.C. § 230(b)(1), which sets forth a congressional policy of “‘promot[ing] the continued development of the Internet,’” id. at 13,033 (quoting 47 U.S.C. § 230(b)(1)) (alteration in original); 47 U.S.C. §230(b)(3), which articulates a Congressional policy of “‘encourag[ing] the development of technologies [that] maximize user control over what information is received by individuals... who use the Internet,’” id. at 13,033 (quoting 47 U.S.C. §230(b)(3)) (alterations and omission in original); the 1996 Act’s prohibitions against practices that interfere with a common-carrier service, id. at 13,037-38 (citing 47 U.S.C. § 201(a)) (noting the possibility that Comcast’s interference with its customers’ uploads will cause the computer trying to download to seek content from another computer connected to the network of a common carrier, thereby increasing the traffic on that common carrier’s network); section 706 of the Telecommunications Act, which provides that the “‘Commission shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans,’” id. at 13038 (quoting 47 U.S.C. § 157 note); the Act’s requirements that the FCC take steps “‘to promote nondiscriminatory accessibility by the broadest number of users and vendors of communications products and services to public telecommunications networks used to provide telecommunications services’ and ‘to ensure the ability of users and information providers to seamlessly and transparently transmit and receive information between and across telecommunications networks,’” id. at 13,039 (quoting 47 U.S.C. § 256(a)); and § 257 of the 1996 Act, which “mandates that the Commission conduct an ongoing review to identify and eliminate ‘market entry barriers for entrepreneurs and other small businesses in the provision and ownership of telecommunications services and information services, or in the provision of parts or services to providers of telecommunications services and information services,’” id. at 13,040 (quoting 47 U.S.C. § 257(a)) (citing 47 U.S.C. § 257(c)).

⁴¹ Id. at 13,047, 13061 n.248.

- ⁴² Cf. Christopher S. Yoo, What Can Antitrust Contribute to the Network Neutrality Debate?, 1 Int'l J. Comm. 493, 529 (2007) (advocating better ISP disclosure of policies and Internet application limits in lieu of regulation or net neutrality legislation).
- ⁴³ Philip J. Weiser, [The Next Frontier for Net Neutrality](#), 60 Admin. L. Rev. 273, 293 (2008) (arguing that regulators should ensure that ISPs disclose the nature of their network management practices to consumers).
- ⁴⁴ 15 U.S.C. §§ 41-58 (2006); see [FTC v. Sperry & Hutchinson Co.](#), 405 U.S. 233, 239 (1972) (The FTC has authority to “define and proscribe an unfair competitive practice, even though the practice does not infringe either the letter or the spirit of the antitrust laws....”).
- ⁴⁵ 15 U.S.C. §§ 1-7.
- ⁴⁶ [Broadband Industry Practices, Notice of Inquiry](#), No. 07-52, 22 F.C.C.R. 7894 (2007).
- ⁴⁷ [The Doors, The End](#), on [The Doors](#) (Elektra Entertainment Group 1967).
- ⁴⁸ [Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs.](#), 545 U.S. 967, 976 (2005) (citing [Amendment of Section 64.702 of the Comm'n's Rules and Regulations \(Second Computer Inquiry\)](#), 77 F.C.C.2d 384, 417-23, PP 86-101 (1980) (final decision) [hereinafter [Computer II Order](#)]).
- ⁴⁹ Yoo, *supra* note 42, at 502.
- ⁵⁰ [Brand X](#), 545 U.S. at 976 (citing [Computer II Order](#), *supra* note 48, PP 86-101).
- ⁵¹ The FCC determined in 1956 that AT&T could only offer common-carrier services. [United States v. W. Elec. Co.](#), No. 17-49, 1956 U.S. Dist. LEXIS 4076, at *3, *6 (D.N.J. Jan. 24, 1956) (restricting AT&T from offering anything other than “common carrier communications services” and defining those services as “communications services and facilities... subject to public regulation”); see also [Brand X](#), 545 U.S. at 1000-01; Susan P. Crawford, [The Internet and the Project of Communications Law](#), 55 UCLA L. Rev. 359, 372 (2007) (citing Jason Oxman, [The FCC and the Unregulation of the Internet](#) 3, 16 (FCC Office of Plans & Policy, Working Paper No. 31, 1999), available at [http:// www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.pdf](http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp31.pdf)).
- ⁵² [Brand X](#), 545 U.S. at 995 (citing [Amendments of Sections 64.702 of the Commission's Rules and Regulations \(Third Computer Inquiry\)](#), 104 F.C.C.2d 958, 964 P 4 (1986)).
- ⁵³ Susan P. Crawford, [Transporting Communications](#), 89 B.U. L. Rev. 871, 887, 891-98 (2009) (the FCC's Computer Inquiries required common carriage to constrain telephone company conduct that might restrict the computer marketplace).
- ⁵⁴ *Id.* at 887.
- ⁵⁵ *Id.* at 886.
- ⁵⁶ See, e.g., Oxman, *supra* note 51, at 17 & n.45 (stating that in 1999 over 6000 ISPs offered dial-up service to the Internet and 95% of Americans had access to four local ISPs).

⁵⁷ [Brand X](#), 545 U.S. at 1000.

⁵⁸ Philip J. Weiser, [Law and Information Platforms](#), 1 J. on Telecomm. & High Tech. L. 1, 12 (2002).

⁵⁹ Letter from Vinton G. Cerf, Senior Vice-President, WorldCom, Inc., to the Honorable Donald Evans, Sec’y, U.S. Dep’t of Commerce, and the Honorable Michael Powell, Chairman, FCC (May 20, 2002), available at http://www.broad-band.gr/content/modules/downloads/broad_band_letter.doc.

⁶⁰ See Stephen Segaller, Nerds 2.0.1, A Brief History of the Internet 111-13 (1998) (stating that TCP/IP protocol allowed the interconnection of packet-switching networks).

⁶¹ Info. Scis. Inst., RFC 793, Transmission Control Protocol: DARPA Internet Program Protocol Specification 3-4, 15, 16 (1981), <http://www.apps.ietf.org/rfc/rfc793.html> [hereinafter RFC 793] (explaining TCP’s primary purpose as the following: “to provide reliable, securable, logical circuit or connection service between pairs of processes,” and to transfer streams of data between users by packaging data into “segments for transmission through the Internet system”). The protocol’s designers noted that Internet Protocol carries several information fields, including the packet’s source, the destination host address, and the Protocol carried within. Id.; see also Jonathan E. Nuechterlein, [Antitrust Oversight of an Antitrust Dispute: An Institutional Perspective on the Net Neutrality Debate](#), 7 J. on Telecomm. & High Tech. L., 19, 22 n.5 (2009) (citing Networking and Information Technology Research and Development, FNC Resolution: Definition of “Internet” (Oct 30, 1995), http://www.nitrd.gov/fnc/Internet_res.html). The Oct. 24, 1995, resolution of the Federal Networking Council stated that “‘Internet’ refers to the global information system that--(i) is logically linked together by a globally unique address space based on the Internet Protocol (IP) or its subsequent extensions/follow-ons; (ii) is able to support communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suite or its subsequent extensions/follow-ons, and/or other IP-compatible protocols; and (iii) provides, uses or makes accessible, either publicly or privately, high level services layered on the communications and related infrastructure described herein.” Networking and Information Technology Research and Development, FNC Resolution, *supra*.

⁶² See Oxman, *supra* note 51, at 3, 16.

⁶³ See *id.* at 12.

⁶⁴ See Richard S. Whitt, [A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network Layers Model](#), 56 Fed. Comm. L.J. 587, 600 (2004).

⁶⁵ Lawrence B. Solum & Minn Chung, [The Layers Principle: Internet Architecture and the Law](#), 79 Notre Dame L. Rev. 815, 816 (2004).

⁶⁶ See J.H. Saltzer, D.P. Reed & D.D. Clark, End-to-End Arguments in System Design (1981), available at <http://web.mit.edu/Saltzer/www/publications/endtoend/endtoend.pdf>.

⁶⁷ Mark Lemley & Lawrence Lessig, [The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era](#), 48 UCLA L. Rev. 925, 933 (2001).

⁶⁸ See *id.* at 932; see also James B. Speta, [A Common Carrier Approach to Internet Interconnection](#), 54 Fed. Comm. L.J. 225, 274 (2002) (“[T]he technical configuration of the Internet makes the development of many new applications easier, because

application developers do not need to conform their data streams to any particular protocol and because the TCP/IP inter-networking protocols do not interact with the applications protocols.”).

⁶⁹ Farrell & Weiser, *supra* note 33, at 90.

⁷⁰ Kevin Werbach, *The Centripetal Network: How the Internet Holds Itself Together, and the Forces Tearing It Apart*, 42 U.C. Davis L. Rev. 343, 399 (2008).

⁷¹ *Id.* at 399-400.

⁷² *Id.* at 400.

⁷³ Lawrence Lessig, *Code and Other Laws of Cyberspace* 6 (1999).

⁷⁴ *Id.* at 6.

⁷⁵ *Id.* at 7 (“[T]he lack of ownership” of the code of cyberspace and “the presence of a commons--is key to limiting, or checking, certain forms of governmental control.”).

⁷⁶ Lemley & Lessig, *supra* note 67, at 947.

⁷⁷ *Id.* at 932.

⁷⁸ *Id.*

⁷⁹ *Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 974 (2005); *Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, 17 F.C.C.R. 4798, 4802, 4819 (2002) [hereinafter *Cable Internet Ruling*].

⁸⁰ *Cable Internet Ruling*, *supra* note 79, at 4802.

⁸¹ *Id.* at 4840 (quoting Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified at 47 U.S.C. §§ 157, 230(b) (2006))).

⁸² 545 U.S. 967 (2005).

⁸³ *Id.* at 982 (quoting *Smiley v. Citibank (S.D.)*, N.A., 517 U.S. 735, 740-41 (1996), which stated that *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), established a “presumption that Congress, when it left ambiguity in a statute meant for implementation by an agency, understood that the ambiguity would be resolved, first and foremost, by the agency, and desired the agency (rather than the courts) to possess whatever degree of discretion the ambiguity allows”).

⁸⁴ See *id.* at 995, 1000.

- ⁸⁵ [Appropriate Framework for Broadband Access to the Internet](#), 20 F.C.C.R. 14,853 (2005).
- ⁸⁶ Press Release, FCC, FCC Classifies Wireless Broadband Internet Access Service as an Information Service (March 22, 2007), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-271695A1.pdf; Press Release, FCC, FCC Classifies Broadband Over Power Line-Enabled Internet Access as “Information Service” (Nov. 3, 2006), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-268331A1.pdf.
- ⁸⁷ See [Appropriate Framework](#), 20 F.C.C.R. at 14,929-35, PP 146-59 (2006). Title I of the 1934 Act authorizes the FCC to “regulat[e] interstate and foreign commerce in communication.” 47 U.S.C. § 151 (2006).
- ⁸⁸ See Paul Ohm, *The Rise and Fall of Invasive ISP Surveillance*, 2009 U. Ill. L. Rev. (forthcoming 2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1261344# (describing deep-packet inspection methods that allow an ISP to examine Internet traffic at the packet level). Professor Ohm also argues that deep-packet inspection and other methods to “sniff” Internet packets violate the Electronic Communications Privacy Act (ECPA) and the Wiretap Act. *Id.* (manuscript at 65-66) (citing ECPA, Pub. L. No. 99-508, 100 Stat. 1848 (codified in various parts of Title 18); Omnibus Safe Streets and Crime Control Act of 1968, Pub. L. No. 90-351, 82 Stat. 197 (codified at 18 U.S.C. § 2511-2520)). Examination of the legality of deep-packet inspection is not necessary to determine whether ISP practices are deceptive under the FTC Act’s deceptive or unfair practices jurisdiction, but should be taken into account in evaluating whether such inspection is an unfair competition tactic. The FCC should consider the allegation that such methods violate the ECPA and the Wiretap Act to determine whether ISP network management techniques are unreasonable or unlawful.
- ⁸⁹ See Rob Frieden, [Network Neutrality or Bias? - Handicapping the Odds for a Tiered and Branded Internet](#), 29 *Hastings Comm. & Ent. L.J.* 171, 210 (2007) (“ISP port blocking strategies should be deemed impermissible by telecommunications service providers and information service providers alike absent a compelling justification, e.g., preventing the dissemination of harmful content such as a virus.”); Lemley & Lessig, *supra* note 67, at 955.
- ⁹⁰ Rob Frieden, [Internet Packet Sniffing and Its Impact on the Network Neutrality Debate and the Balance of Power Between Intellectual Property Creators and Consumers](#), 18 *Fordham Intell. Prop. Media & Ent. L.J.* 633, 642 (2008).
- ⁹¹ See Free Press, et al., Comments at 4, 8, WC Docket No. 07-52, (Fed. Commc’ns Comm’n Feb. 13, 2008).
- ⁹² Ohm, *supra* note 88, at 25.
- ⁹³ *Id.*
- ⁹⁴ See *id.*
- ⁹⁵ *Id.*
- ⁹⁶ [Madison River Communications, LLC](#), 20 F.C.C.R. 4295, 4295, 4297 (2005) (adopting a consent decree to terminate an investigation into the compliance of Madison River Communication, LLC with section 201(b) of the Communications Act of 1934). Section 201(b) requires that for common carriers “[a]ll charges, practices, classifications, and regulations for and in connection with such communication service shall be just and reasonable.” 47 U.S.C. § 201(b); see Barbara van Schewick, [Towards an Economic Framework for Network Neutrality Regulation](#), 5 *J. on Telecomm. & High Tech. L.* 329, 346 (2007) (“[E]xclusion in the VoIP market serves to preserve the network provider’s current profits.”).

⁹⁷ [Madison River](#), 20 F.C.C.R. at 4295.

⁹⁸ See FTC Broadband Report, *supra* note 9, at 3.

⁹⁹ [FTC v. Verity Int'l, Ltd.](#), 443 F.3d 48, 56 (2d Cir. 2006).

¹⁰⁰ Nuechterlein, *supra* note 61, at 51 n.99 (citing 47 U.S.C. § 153(44)). 47 U.S.C. § 153(44) states that a provider of telecommunications services is deemed a common carrier under the Communications Act “only to the extent that it is engaged in providing telecommunications services.” 47 U.S.C. § 153(44) (2006). Nuechterlein argues that ISPs do not automatically fall outside of the common-carrier exemption, and thus under the FTC’s concurrent jurisdiction, because of the FCC’s continued attempts to regulate them under Title I of the Communications Act. Nuechterlein, *supra* note 61, at 52. Title I, however, is not based on common-carrier regulations and the FCC’s post-Brand X orders removing nondiscrimination obligations were explicitly intended to reclassify ISPs as information service providers, not common carriers, thus creating a Venn-diagram-like area of shared jurisdiction between the FTC and the FCC based on their respective regulatory authority.

¹⁰¹ See, e.g., Weiser, *supra* note 43, at 289; Yoo, *supra* note 42, at 529.

¹⁰² Steven Hetcher, [The FTC as Internet Privacy Norm Entrepreneur](#), 53 Vand. L. Rev. 2041, 2044 (2000).

¹⁰³ *Id.* at 2046.

¹⁰⁴ The FTC’s inaction might be explained in part by the potential voting deadlock on the FTC created in the wake of the resignation of FTC Chairperson Deborah Platt Majoras, who led the FTC’s examination of broadband practices that resulted in its 2007 report. Since March 2008, the FTC has had four members and now has a Democratic Chairperson, a Republican member, an Independent member, and one Democratic member. See FTC, Commissioners, <http://www.ftc.gov/commissioners/index.shtml> (follow link to the pages for each Commissioner) (last visited Oct. 3, 2009). Political affiliation alone may not fully explain the FTC’s inaction. In June 2008 Republican Commissioner J. Thomas Rosch gave a speech contending that Comcast’s actions in blocking P2P, despite the company’s promises of broad internet access, were deceptive and unfair under the FTC Act. J. Thomas Rosch, Comm’r, Fed. Trade Comm’n, Broadband Access Policy: The Role of Antitrust (June 13, 2008) [hereinafter Rosch Broadband Speech], available at <http://www.ftc.gov/speeches/rosch/080613broadbandaccess.pdf>.

¹⁰⁵ Peter Byrne, Robert Fisher & Naked Eyes, Promises, Promises (Emi-Capitol Special Markets 1998).

¹⁰⁶ Hart Complaint, *supra* note 2; see [Hart v. Comcast of Alameda](#), No. C 07-6350 PJF, 2008 WL 2610787, at *1 (N.D. Cal. June 25, 2008). Hart’s case was initially filed in November 2007 in California state court as a class action, then removed to federal court on Comcast’s motion.

¹⁰⁷ [Hart](#), 2008 WL 2610787, at *1 (citing [Davel Commc’ns Inc. v. Qwest Corp.](#), 460 F.3d 1075, 1080 (9th Cir. 2006)) (applying the “primary jurisdiction” doctrine under which courts may determine that initial jurisdiction resides in an administrative agency, and ruling that the FCC has primary jurisdiction to determine some of the issues underlying Hart’s suit such as the reasonableness of Comcast’s network management actions). In December 2008, Hart v. Comcast was consolidated as part of a multidistrict litigation concerning six cases challenging Comcast’s interference with P2P in light of the company’s advertising claims. [In re Comcast Corp. Peer-to-Peer \(P2P\) Transmission Contract Litig.](#), 588 F. Supp. 2d 1381, 1382 (J.P.M.L. 2008) (“All actions share factual questions arising out of allegations that Comcast (1) slowed, delayed or otherwise impeded peer-to-peer (P2P) transmissions sent using its broadband highspeed internet service (HSIS) (even though it advertised ‘unfettered’ access), and (2) failed to disclose this practice to its subscribers.”).

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- ¹⁰⁸ Hart Complaint, *supra* note 2, PP1-4. Hart filed state claims under [sections 17203 and 17535 of the California Business and Professions Code](#) (providing for injunctions and restitution for unfair and deceptive practices); [section 17500 of the California Business and Professions Code](#) (prohibiting false and misleading advertising); California's Consumer Legal Remedies Act, [section 1750 of the California Civil Code](#); a federal claim under the Computer Fraud and Abuse Act, [18 U.S.C. § 1030](#); and alleged breach of contract and breach of the implied covenant of good faith and fair dealing. Hart Complaint, *supra* note 2, at 11-19. Comcast filed an appeal of the FCC's order in 2008, extending the resolution of the FCC claims that may affect Hart's action and the other complaints in the consolidated case. *Comcast Corp. v. FCC*, No. 08-1291 (D.C. Cir. filed Sept. 4, 2008).
- ¹⁰⁹ Counsel for Hart filed a motion to settle the case in April 2009. Plaintiff's Motion for Preliminary Approval of Proposed Settlement, Conditional Certification of Class, Selection of Class Counsel, Approval of Notice Plan, and Setting Settlement Fairness Hearing, *In re Comcast Corp. Peer-to-Peer (P2P) Transmission Contract Litig.*, No. 2:08-md-01922-LDD (E.D. Pa. April 14, 2009). Six of the seven class members filed a motion opposing that settlement on the grounds that it provided inadequate relief to the class members; though the proposed settlement would require Comcast to pay \$16 million, recovery for individual subscribers who are class members would be limited to \$16 each. Plaintiffs' Opposition to The Preliminary Approval of Proposed Class Action Settlement Agreement Filed on April 14, 2009 at 3-4, *In re Comcast Corp. Peer-to-Peer (P2P) Transmission Contract Litig.*, No. 2:08-md-01922-LDD (E.D. Pa. May 18, 2009). The plaintiffs opposing the proposed settlement emphasized that it contained no injunctive relief prohibiting Comcast from "blocking class members' access to P2P protocols in the future, nor does it contain any guarantee that Comcast will inform class members or the general public of its P2P management practices on a prospective basis." *Id.* at 4.
- ¹¹⁰ FTC Act, 38 Stat. 717, § 5(a)(1) (1914) (codified at [15 U.S.C. § 45\(a\)\(1\)](#) (2006)).
- ¹¹¹ *FTC v. Cyberspace.com LLC*, 453 F.3d 1196, 1199 (9th Cir. 2006); *FTC v. Tashman*, 318 F.3d 1273, 1277 (11th Cir. 2003); *Telebrands Corp.*, 140 F.T.C. 278, 290 (2005), *aff'd*, 457 F.3d 354 (4th Cir. 2006); *Cliffdale Assocs., Inc.*, 103 F.T.C. 110, 164-65 (1984).
- ¹¹² See *Cliffdale Assocs.*, 103 F.T.C. at 175.
- ¹¹³ *Id.* at 164-65 (citing FTC Policy Statement on Deception, (Oct. 14, 1983) [hereinafter FTC Policy Statement on Deception], available at <http://www.ftc.gov/bcp/policystmt/ad-decept.htm>).
- ¹¹⁴ *FTC v. Bay Area Bus. Council, Inc.*, 423 F.3d 627, 634-35 (7th Cir. 2005) ("The FTC is empowered to initiate federal court actions to enforce violations of section 5" of the FTC Act, which prohibits "unfair or deceptive acts or practices in or affecting commerce," [15 U.S.C. § 45\(a\)\(1\)](#), and to "seek appropriate equitable relief," [15 U.S.C. § 53\(a\)-\(b\)](#)). Since the FTC Act creates a separate cause of action not based on breach of contract, the parol evidence rule would not apply to prohibit the introduction of extrinsic evidence to interpret an unambiguous, integrated, written contract. See *Certain British Underwriters at Lloyds of London v. Jet Charter Serv., Inc.*, 789 F.2d 1534, 1535 (11th Cir. 1986); *Orkin Exterminating Co. v. FTC*, 849 F.2d 1354, 1362 (11th Cir. 1988) (citing *Peterson v. Lexington Ins. Co.*, 753 F.2d 1016, 1018 (11th Cir. 1985)). The FTC Act's deceptive conduct standards do not seek to interpret the parties' contract or determine whether a contract was breached. The FTC's deceptive conduct provisions examine whether the advertising or representations that induced the contract or transaction were misleading in light of the disclosures at the time of the transaction. FTC Policy Statement on Deception, *supra* note 113.
- ¹¹⁵ *Lyons v. Coxcom, Inc.*, No. 08-CV-02047-H(CAB), 2009 WL 347285, at *6-7 (S.D. Cal. Feb. 6, 2009).
- ¹¹⁶ *Id.* at *6.
- ¹¹⁷ *Id.* at *7.

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- ¹¹⁸ [U.S. v. Locascio](#), 357 F. Supp. 2d 536, 548-49 (E.D.N.Y. 2004) (citing FTC, Dot Com Disclosures: Information About Online Advertising (2000) [hereinafter FTC Dot Com Disclosures], available at <http://www.ftc.gov/bcp/edu/pubs/business/ecommerce/bus41.pdf>).
- ¹¹⁹ Rosch Broadband Speech, *supra* note 104, at 6.
- ¹²⁰ FTC Policy Statement on Deception, *supra* note 113, at 164-65 n.4.
- ¹²¹ [FTC v. Med. Billers Network](#), 543 F. Supp. 2d 283, 304 (S.D.N.Y. 2008) (quoting [Am. Home Prods. Corp. v. FTC](#), 695 F.2d 681, 686 (3d Cir. 1982)).
- ¹²² [15 U.S.C. § 55\(a\)\(1\)](#) (2006).
- ¹²³ See *id.*
- ¹²⁴ [15 U.S.C. § 7](#).
- ¹²⁵ See [Morales v. Walker Motors Sales, Inc.](#), 162 F. Supp. 2d 786, 790 (S.D. Ohio 2000) (holding there is no implied private right of action under the FTC Act provisions prohibiting unfair and deceptive acts and practices in or affecting commerce).
- ¹²⁶ FTC Broadband Report, *supra* note 9, at 3 (noting the FTC has brought a variety of cases against ISPs that have engaged in allegedly deceptive marketing and billing practices).
- ¹²⁷ [Cliffdale Assocs., Inc.](#), 103 F.T.C. 110, 176 (1984).
- ¹²⁸ [Novartis Corp. v. FTC](#), 223 F.3d 783, 786 (D.C. Cir. 2000) (quoting [Cliffdale Assocs.](#), 103 F.T.C. at 165).
- ¹²⁹ [Novartis Corp.](#), 223 F.3d at 786 (citing [Cliffdale Assocs.](#), 103 F.T.C. at 182).
- ¹³⁰ Hart Complaint, *supra* note 2, at 9.
- ¹³¹ *Id.* at 1.
- ¹³² *Id.*
- ¹³³ *Id.* at 9.
- ¹³⁴ [Cliffdale Assocs.](#), 103 F.T.C. at 181 (“[T]here is a category of advertising themes, in the nature of puffing or other hyperbole, which do not amount to the type of affirmative product claims for which either the Commission or the consumer would expect documentation.” (quoting [Pfizer, Inc.](#), 81 F.T.C. 23, 64 (1972))).

- ¹³⁵ Hart Complaint, *supra* note 2, at 9.
- ¹³⁶ *Id.* Mbps refers to megabytes per second. See Verizon Assurance of Discontinuance, *supra* note 2, n.3 (“One byte usually contains enough information to convey or store just one character (such as the letter ‘a’). A ‘gigabyte’ equals approximately one billion bytes, or approximately one thousand ‘megabytes’ Static webpages often contain less than one megabyte of data, while a three minute video clip on YouTube might contain approximately four megabytes of data.”).
- ¹³⁷ *Cliffdale Assocs.*, 103 F.T.C. at 176.
- ¹³⁸ *Id.* at 179-82.
- ¹³⁹ *Id.* at 177 n.20 (“An interpretation may be reasonable even though it is not shared by a majority of consumers in the relevant class, or by particularly sophisticated consumers. A material practice that misleads a significant minority of reasonable consumers is deceptive.”).
- ¹⁴⁰ Hart Complaint, *supra* note 2, at 9.
- ¹⁴¹ *Id.*
- ¹⁴² *Id.*
- ¹⁴³ Transit Link Growth, *supra* note 28.
- ¹⁴⁴ Doug Mohnney, Comcast Speed and Price Increase in Pipeline, *FierceTelecom*, Oct. 18, 2008, <http://www.fiercetelecom.com/story/comcast-speed-price-increases-pipeline/2008-10-20> (reporting that Comcast would offer in Fall 2008 three tiers of service, the Economy offering speeds of 768 Kbps/384 Kbps (download/upload speed) for \$24.95 a month, 6 Mbps/1 Mbps for \$42.95 a month, and 8 Mbps/2 Mbps at \$52.95 per month).
- ¹⁴⁵ *FTC v. Tashman*, 318 F.3d 1273, 1283 (11th Cir. 2003).
- ¹⁴⁶ *FTC v. Cyberspace.com LLC*, 453 F.3d 1196, 1200 (9th Cir. 2006); see also *Stouffer Foods Corp.*, 118 F.T.C. 746, 799 (1994) (noting that the FTC also considers the overall impression the ad created).
- ¹⁴⁷ 778 F.2d 35, 42-43 (D.C. Cir. 1985).
- ¹⁴⁸ *FTC v. Brown & Williamson Tobacco Corp.*, 778 F.2d 35, 43 (D.C. Cir. 1985).
- ¹⁴⁹ *Cliffdale Assocs., Inc.*, 103 F.T.C. 110, 180 n.34 (1984) (citing *Giant Food*, 61 F.T.C. 326, 348 (1962) (fine-print disclaimer was inadequate to correct a deceptive impression)).
- ¹⁵⁰ *Cyberspace.com LLC*, 453 F.3d at 1200 (citing *Brown & Williamson Tobacco Corp.*, 778 F.2d at 43).

- ¹⁵¹ FTC Dot Com Disclosures, *supra* note 118, at 1.
- ¹⁵² *Id.*
- ¹⁵³ Hart Complaint, *supra* note 2, at 9-10.
- ¹⁵⁴ *Id.* at 9.
- ¹⁵⁵ *Id.*
- ¹⁵⁶ *Id.* at 9-10. Hart defined “Blocked Applications” as peer-to-peer file sharing and Lotus Notes. *Id.* at 1. Lotus Notes is software that facilitates communication and collaboration. IBM, Lotus Software, <http://www-306.ibm.com/software/lotus/> (last visited Oct. 3, 2009).
- ¹⁵⁷ Hart Complaint, *supra* note 2, at 9-10.
- ¹⁵⁸ FTC Dot Com Disclosures, *supra* note 118, at 1. Disclosures must be clear and conspicuous to prevent an ad from being misleading, ensure that consumers receive material information about the terms of a transaction or to further public policy goals. See generally *FTC v. Five Star Auto Club, Inc.*, No. CIV-99-1693, 2000 WL 1609798 (S.D.N.Y. June 12, 2000); *Palm, Inc.*, No. C-4044, 2002 WL 663657 (Fed. Trade Comm’n Apr. 17, 2002).
- ¹⁵⁹ Written Testimony of Barbara van Schewick at the FCC’s en banc Hearing on Broadband Network Management Practices at 3, No. 07-52 (Fed. Comm’n Comm’n Apr. 17, 2008) [hereinafter *van Schewick FCC Testimony*], available at <http://cyberlaw.stanford.edu/system/files/van%20Schewick%C2FCC%C20Written%C20Testimony%C20April%C2017%202008.pdf>.
- ¹⁶⁰ *Id.*
- ¹⁶¹ *Id.* (citing Comcast, Product Terms and Conditions, Performance with PowerBoost® (Speeds Up to 12 Mbps), <http://www.comcast.com/Shop/Buyflow/default.ashx?Popup=true&RenderedBy=Products&FormName=ProductTermsandConditions&ProductID=20571> (enter address to access information) (last visited Apr. 15, 2008)).
- ¹⁶² AT&T, Messaging & Data, *supra* note 2.
- ¹⁶³ AT&T, Blackberry Personal, http://www.wireless.att.com/cell-phone-service/services/serviceDetails.jsp?LOGSId=7123100619&skuId=sku1160046&catId=cat1510007&_requestid=27109 (last visited Oct. 3, 2009).
- ¹⁶⁴ *Id.*
- ¹⁶⁵ *Id.*

- ¹⁶⁶ See *id.* An “Intranet” is a private network using Internet technology for the exclusive use of those given access to it though the organization that runs the Intranet. BusinessDictionary.com, intranet, [http:// www.businessdictionary.com/definition/intranet.html](http://www.businessdictionary.com/definition/intranet.html) (last visited Oct. 3, 2009). AT&T’s terms limit P2P access for “Intranet” use, although most popular P2P applications are found on the public “Internet.” See, e.g., Pando, Featured Pando Channel, National Geographic Video Shorts, <http://www.pando.com/channel/ngvideoshorts> (last visited Oct. 3, 2009); Vuze, Find, Download, Play, <http://www.vuze.com/app> (last visited Oct. 3, 2009). By its express terms, AT&T’s description of permissible and prohibited uses does not disallow P2P “Internet” use, except through its open-ended limitations allowing AT&T to “deny, disconnect, modify and/or terminate Service, without notice, to anyone it believes is using the Service in any manner prohibited or whose usage adversely impacts its wireless networks or service levels.” AT&T Blackberry Personal, *supra* note 163.
- ¹⁶⁷ *FTC v. Med. Billers Network*, 543 F. Supp. 2d 283, 304 (S.D.N.Y. 2008) (quoting *Exposition Press, Inc. v. FTC*, 295 F.2d 869, 873 (2d Cir. 1961)).
- ¹⁶⁸ *Med. Billers Network*, 543 F. Supp. 2d at 304 (quoting *FTC v. Gill*, 71 F. Supp. 2d 1030, 1044 (C.D. Cal. 1999)).
- ¹⁶⁹ Tim Wu, Wireless Carterfone, 1 Int’l J. Comm. 389, 417 (2007), <http://ijoc.org/ojs/index.php/ijoc/article/viewFile/152/96>.
- ¹⁷⁰ *Id.* at 405-06.
- ¹⁷¹ See FTC Dot Com Disclosures, *supra* note 118, at 1 (noting that the FTC evaluates the placement of the disclosure in an ad and its proximity to the relevant claim).
- ¹⁷² Robert W. Hahn et al., The Economics of “Wireless Net Neutrality,” 3 J. Competition L. & Econ. 399, 445 (2007).
- ¹⁷³ See *id.*
- ¹⁷⁴ See *Orkin Exterminating Co. v. FTC*, 849 F.2d 1354, 1367 (11th Cir. 1988) (holding that a unilateral attempt to modify a contract and impose those changes on existing customers is an unfair practice under the FTC Act); see also FTC Broadband Report, *supra* note 9, at 130 (citing CardSystems Solutions, Inc., No. C-4168 (Fed. Trade Comm’n Sept. 5, 2006), available at <http://www.ftc.gov/os/caselist/0523148/0523148CardSystemdo.pdf>). A full examination of the application of the FTC Act’s unfair practices jurisdiction is beyond the ambit of this Article but merits scholarly attention.
- ¹⁷⁵ Verizon Assurance of Discontinuance, *supra* note 2, para. 3.
- ¹⁷⁶ *Id.* para. 4. The New York Attorney General also found that Verizon capped users’ “unlimited” wireless through specific usage thresholds that it did not clearly and conspicuously disclose to consumers, and terminated subscribers exceeding those undisclosed levels. *Id.* paras. 7-8.
- ¹⁷⁷ Press Release, Office of the Att’y Gen. of N.Y. State, Verizon Wireless Agrees To Settle Deceptive Marketing Investigation: “Unlimited” Internet Plans Were Actually Limited, Company Agrees To Change Practices and Reimburse Customer (Oct. 23, 2007), http://www.oag.state.ny.us/media_center/2007/oct/oct23a_07.html; see also Verizon Assurance of Discontinuance, *supra* note 2, para. 6.
- ¹⁷⁸ Verizon Assurance of Discontinuance, *supra* note 2, para. 13.

179 Id. para. 15.

180 Transit Link Growth, *supra* note 28.

181 Accelerating the Video Internet, *supra* note 20, at 4-6 (observing that with the use of video on the Internet “extreme users are becoming the norm.”). For example, Akami sustained 286,000 simultaneous live P2P streams for basketball games during the 2006 March Madness college tournament. *Id.*

182 Comcast Comments, *supra* note 22, at 39.

183 *Id.* at 40 (citing Comcast Corp., Network Management and Limitations on Bandwidth Consumption, <http://www.comcast.net/terms/use>).

184 *Id.* at 40.

185 Reply Comments of Comcast Corp. at 9 n.14, Broadband Indus. Practices, No. 07-52 (Fed. Commc’ns Comm’n 2008) [hereinafter Comcast Reply Comments] (“[P2P] applications significantly alter the traditional traffic flow of a network by massively increasing the quantity and duration of traffic from the end user. This traffic, multiplied across multiple end users, can and does exceed the capacity of the network if not managed in some fashion.” (quoting Amplex Electric, Comments at 1-2, FCC File No. EB-08-IH-1518, WC Docket No. 07-52 (2007))); Comments of AT&T Inc. at 12-21, Broadway Indus. Practices, WC Docket No. 07-52 (Fed. Commc’ns Comm’n 2007) [hereinafter AT&T Comments] (P2P presents challenges including congestion, unpredictability and inefficient use of bandwidth).

186 Comcast Reply Comments, *supra* note 185, at 10 n.20 (“P2P technologies invert a key engineering assumption about the direction of traffic flows on the Internet... thus placing a much greater strain on upstream bandwidth than network engineers anticipated.” (omission in original) (quoting AT&T Comments, *supra* note 185, at 12-13)).

187 Letter from Comcast to the FCC (Sept. 25, 2008), at 2-3 [hereinafter Sept. 25, 2008 Comcast Letter]. Comcast contends that in some locations P2P use accounts for two-thirds of all uploads through the network. *Id.* at 11.

188 Comments of Consumer Federation of America, et al., Broadband Indus. Practices, WC Docket No. 07-52, at 5-6 (Fed. Commc’ns Comm’n 2007).

189 See Comcast Reply Comments, *supra* note 185, at 10.

190 Traffic Optimization, *supra* note 27, at 1-2.

191 *Id.* at 1.

192 See Comcast Comments, *supra* note 22, at 11; Yoo, *supra* note 29, at 201 (“Unlike under DSL, traffic generated by individual cable modem customers shares bandwidth with the traffic generated by their neighbors from the moment it leaves their house.” Consequently, a cable modem customer’s quality of service “is considerably more sensitive to the bandwidth consumption of their immediate neighbors.”).

- ¹⁹³ See Skype, P2P Telephony Explained, [http:// www.skype.com/help/guides/p2pexplained/](http://www.skype.com/help/guides/p2pexplained/) (last visited Oct. 3, 2009) (Skype was founded to develop the first P2P telephony network); Frischmann & van Schewick, *supra* note 33, at 407 n.82 (characterizing Skype as having moderate bandwidth requirements since it uses 3-16 kilobytes per second depending on available bandwidth while on a call and 0-0.5 kilobytes per second while idle). The FCC defines broadband as speeds that exceed 200 kilobits per second). Indus. Analysis & Tech. Bureau, FCC, High-Speed Service for Internet Access: Status as of June 30, 2008 n.1 (2009) [hereinafter *FCC 2008 High-Speed Internet Access Report*], available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-292191A1.doc.
- ¹⁹⁴ See Sept. 25, 2008 Comcast Letter, *supra* note 187, attachment A, at 8-9.
- ¹⁹⁵ *Id.* at 10.
- ¹⁹⁶ Comcast Comments, *supra* note 22, at 39-42.
- ¹⁹⁷ Sept. 25, 2008 Comcast Letter, *supra* note 187, attachment A, at 7.
- ¹⁹⁸ Peter Svensson, How the AP Tested Comcast's File-Sharing Filter, Oct. 18, 2007, Associated Press, available at http://www.newsvine.com/_news/2007/10/19/1035713-ap-tests-comcasts-file-sharing-filter; see also Peter Svensson, Comcast Blocks Some Internet Traffic, Associated Press, Oct. 19, 2007 [hereinafter *Svensson, Comcast Blocking*], available at <http://www.msnbc.msn.com/id/21376597/>.
- ¹⁹⁹ Svensson, *Comcast Blocking*, *supra* note 198.
- ²⁰⁰ Sandvine Inc., Meeting the Challenge of Today's Evasive P2P Traffic 14 (2004), available at http://www.larryblakeley.com/Articles/p2p/Evasive_P2P_Traffic.pdf. It is noteworthy that this author was able to find Sandvine's white paper through Sandvine's website in July 2008. In February 2009, although portions of Sandvine's website showed the paper's title, the link to that paper was disabled.
- ²⁰¹ RFC 793, *supra* note 61, at 16.
- ²⁰² Internet Eng'g Task Force, RFC 112, Requirements for Internet Hosts--Communications Layers (R. Braden ed., 1989), <http://www.faqs.org/rfcs/rfc1122.html> (serving as an official specification for the Internet community that discusses the requirements for Internet host software).
- ²⁰³ Sally Floyd, Internet Eng'g Task Force, Inappropriate TCP Resets Considered Harmful, May 2002, <http://tools.ietf.org/html/draft-floyd-tcp-reset-04> (internet draft).
- ²⁰⁴ *Id.* at 1-2.
- ²⁰⁵ *Id.* at 4.
- ²⁰⁶ A.M. Guirado-Puerta et al., Peer-to-Peer Traffic Measurement, Analysis and Management in an Institutional Network, *Comm., Internet & Info. Tech.* 174 (2004).

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- ²⁰⁷ Martin Arlitt & Carey Williamson, An Analysis of TCP Reset Behaviour on the Internet, *Computer Comm. Rev.*, Jan. 2005, at 37, 37-44 (2004).
- ²⁰⁸ James Fallows, The Connection Has Been Reset, *The Atlantic*, Mar. 2008, at 64, 64-69.
- ²⁰⁹ See Paul Watson, Slipping in the Window: TCP Reset Attacks (2003), available at http://osvdb/ref/04/04030-SlippingInTheWindow_v1.0.doc; Paul Roberts, Experts Warn of TCP Vulnerability: Network Infrastructure Providers and Companies' Internal Networks Called the Most Vulnerable to DOS Attacks, *ComputerWorld*, Apr. 21, 2004, http://www.computerworld.com/s/article/92531/Experts_warn_of_TCP_vulnerability.
- ²¹⁰ Vuze, First Results from Vuze Network Monitoring Tool 1 (Apr. 18, 2008), http://cache2.vuze.com/docs/internet_future/First_Results_from_Vuze_Network_Monitoring_Tool.pdf.
- ²¹¹ *Id.*
- ²¹² *Id.* at 2. Cogeco Cable Inc. offers high speed Internet service in Canada. Cogeco's High Speed Internet in Ontario Gets a Boost, *Yahoo! Canada Finance* (Aug. 4, 2009), <http://ca.news.finance.yahoo.com/s/04082009/28/link-f-ccnmatthews-cogeco-s-high-speed-internet-ontario-gets-boost.html>.
- ²¹³ Nate Anderson, Cox, Comcast Biggest BitTorrent Blockers in the World, *Ars Technica*, May 15, 2008, <http://arstechnica.com/old/content/2008/05/us-isps-biggest-bittorrent-blockers-in-the-world.ars>; see also Marcel Dischinger et al., Detecting BitTorrent Blocking, ACM Internet Measurement Conference (2008), available at http://broadband.mpi-sws.org/transparency/results/08_imc_blocking.pdf; Max Planck Institute for Software Systems, Glasnost: Results from Tests for BitTorrent Traffic Blocking, <http://broadband.mpi-sws.org/transparency/results/> (last visited Oct. 3, 2009) [hereinafter Glasnost Traffic Blocking Tests].
- ²¹⁴ Anderson, *supra* note 213.
- ²¹⁵ See Glasnost Traffic Blocking Tests, *supra* note 213, § 5.
- ²¹⁶ See *id.*
- ²¹⁷ Letter from Jack Zinman, Gen. Att'y, AT&T, to Marlene H. Dortch, Sec'y, FCC, WC Docket No. 07-52 (Fed. Commc'ns Comm'n Apr. 25, 2008). AT&T also highlighted the need for ISPs and Internet application developers to work together to make Internet use more efficient and encouraged Vuze to collaborate with industry organizations to discuss network management issues. *Id.*
- ²¹⁸ See Sept. 25, 2008 Comcast Letter, *supra* note 187, at 7.
- ²¹⁹ Comcast Comments, *supra* note 22, at 4. The comments also describe the network management practices of other broadband providers. *Id.* at 21-22.
- ²²⁰ Dr. David P. Reed, Adjunct Professor, MIT Media Lab., Opening Statement at MIT Communication Futures Program (Feb. 25, 2008), available at http://www.fcc.gov/broadband_network_management/022508/reed.pdf.

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- ²²¹ Id. (citing Floyd, *supra* note 203). See generally Internet Eng'g Task Force, <http://www.ietf.org> (last visited Oct. 3, 2009).
- ²²² Richard Bennett, Comcast Is Right, the FCC Is Wrong, Circle ID, Sept. 28, 2008, http://www.circleid.com/posts/2008928_comcast_right_fcc_wrong/.
- ²²³ Paul Korzeniowski, Feds and Internet Service Providers Don't Mix, Forbes.com, Sept. 26, 2008, http://www.forbes.com/2008/09/26/net-neutrality-comcast-ent-tech-cx_pk_0926bmightynetneutrality.html.
- ²²⁴ Id.
- ²²⁵ Bennett, *supra* note 222.
- ²²⁶ Comcast Comments, *supra* note 22, at 28 (admitting that Comcast uses TCP reset messages to delay initiation of new P2P uploads).
- ²²⁷ See Carroll, *supra* note 1, at 106 (“‘When I use a word,’ Humpty Dumpty said... ‘it means just what I choose it to mean--neither more nor less.’”).
- ²²⁸ See *supra* Part II.
- ²²⁹ Comcast Comments, *supra* note 22, at 28; Sept. 25, 2008 Comcast Letter, *supra* note 187, at 2 (contending Comcast only delayed attempts to upload P2P packets in times of network congestion).
- ²³⁰ Comcast Comments, *supra* note 22, at 28 (quoting George Ou, EFF Wants to Saddle You with Metered Internet Service, ZDNet, Real World IT, Dec. 2007, <http://blogs.zdnet.com/Ou?p=914&page=3> (contending that mechanisms do not exist to substitute for the use of TCP reset messages to manage excessive traffic)).
- ²³¹ Reply Comments of Free Press, et al. at 25, WC Docket No. 07-52 (Fed. Commc'ns Comm'n Feb. 28, 2008) [hereinafter Free Press Reply Comments] (citing Reed, *supra* note 220).
- ²³² See Internet Eng'g Task Force, *supra* note 202.
- ²³³ Free Press Reply Comments, *supra* note 231, at 25-26 (noting Random Early Drops “signal[] congestion to the ends by dropping packets randomly,” which the ends can send more slowly, while Early Congestion Notification “mark [s] ‘envelopes’ passing through congested areas so the end points can decide to slow traffic”). P2P “caching services” manage network congestion by “caching popular files” to relieve upload bandwidth while providing consumers with access to services and services with access to consumers. Id. at 26 (citing PeerApp, PeerApp White Paper: Comparing P2P Solutions (2007), available at <http://peerapp.com/Data/Files/ComparingP2Psolutions.pdf>) (“P2P caching, similar to Web caching, temporarily stores popular content flowing into the ISP network. If the content requested by a subscriber is available from a cache, cache satisfies the request from its temporary storage, eliminating data transfer through expensive transit line. With estimates of over 75% of P2P content is requested multiple times, P2P content responds well to caching, manifesting high reuse patterns.”)).
- ²³⁴ Comcast Comments, *supra* note 22, at 28. Comcast's emphasis on the lack of communication between two people involved in resets is curious because regardless of whether the message is inserted by a program Comcast employs or by a “person”

communicating with another person, that distinction would not be significant to the analysis of the FTC Act's proscriptions against unfair or deceptive acts or practices or the FCC's analysis of these practices under the Communications Act.

235 Id. at 28-29.

236 Id. at 27.

237 Formal Complaint, Complaint of Free Press and Public Knowledge Against Comcast Corp., WC Docket No. 07-52 (Fed. Commc'ns Comm'n Nov. 1, 2007).

238 See Petition for Declaratory Ruling at 12, WC Docket No. 07-52 (Fed. Commc'ns Comm'n Nov. 1, 2007).

239 Id. at 13-14.

240 Comcast Comments, supra note 22, at 29.

241 Sept. 25, 2008 Comcast Letter, supra note 187, at 15; see Glasnost Traffic Blocking Tests, supra note 213, § 4 (stating that the percentage of blocked tests attempting to use BitTorrent on Comcast remained "high at all times of the day" and every day of the week, suggesting that "BitTorrent blocking is independent of the time of the day").

242 AT&T, which provides broadband Internet through its telephone network, stated in a filing to the FCC that it "does not use 'false reset messages' to manage its network." Zinman, supra note 217.

243 Comcast Comments, supra note 22, at 11. Free Press notes that Comcast allocates hundreds of channels of bandwidth to its video service and video on demand and only two or three channels to broadband. Free Press Reply Comments, supra note 231, at 23. Free Press contends that if cable companies implemented switched digital video (SDV) technology, only channels requested by customers would be sent through the last mile to the customer's home, saving considerable bandwidth. Id. Time Warner's Chief Technology Officer reported that using SVD yielded more than 50% of bandwidth savings. Mike Robuck, Switch Is on for Cox, Time Warner Cable, CT Reports, Apr. 13, 2006, <http://www.cable360.net/ct/news/ctreports/18481.html>. This highlights the role of the ISP's choices in network congestion and undermines any contention that resets are the only technical means to deal with such congestion.

244 See Complaint at 2, [Zango Inc., No. C-4186, 2007 WL 809634 \(Fed. Trade Comm'n Mar. 7, 2007\)](#).

245 [Advertising.Com, 140 F.T.C. 220 \(2005\)](#) (holding that failure to disclose material fact that software touted as Internet security program contained adware was a deceptive practice under the FTC Act).

246 FTC Broadband Report, supra note 9, at 33.

247 Analysis of the enforceability of early termination fees is beyond the scope of this Article, but such fees highlight the barriers facing a subscriber who wants to mitigate the harms of deceptive practices by canceling the contract and switching to another ISP that did not impose similar limits or use such methods, even if one were available.

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- ²⁴⁸ See Vuze, About Vuze, <http://www.vuze.com/corp/Technology.html> (last visited Oct. 3, 2009).
- ²⁴⁹ Comments of Vuze, Inc. at 3, Broadband Indus. Practices, WC Docket No. 07-52 (Fed. Commc'ns Comm'n Feb. 13, 2007).
- ²⁵⁰ [Cliffdale Assocs., Inc.](#), 103 F.T.C. 110, 175 (1984); see also [Am. Fin. Servs. Ass'n v. FTC](#), 767 F.2d 957, 966-67 (D.C. Cir. 1985) (citing H.R. Rep. No. 75-1613, at 3 (1937) (stating that the FTC Act amendments were designed to prevent injury to the consumer as well as practices that are unfair to competitors)).
- ²⁵¹ Yoo, Network Neutrality, Consumers, and Innovation, *supra* note 29, at 222-23.
- ²⁵² Farrell & Weiser, *supra* note 33, at 101, 105 (explaining that incentives to undermine an application that can compete with the ISP's core platform are an exception to the principle that ISPs will tend to "internalize complementary efficiencies").
- ²⁵³ Petition to Establish Rules Governing Network Management Practices by Broadband Network Operators at 1, WC Docket No. 07-52 (Fed. Commc'ns Comm'n Nov. 14, 2007).
- ²⁵⁴ FCC Comcast Order, *supra* note 3, at 13,028-34.
- ²⁵⁵ *Id.* at 13,030, 13,036-37; see also Farrell & Weiser, *supra* note 33, at 101.
- ²⁵⁶ Worley, *supra* note 34.
- ²⁵⁷ Comcast Reply Comments, *supra* note 185, at 26-28. Sandvine examines the relevant header information in the packet that indicates what type of protocol is being used (e.g., P2P, VoIP). *Id.*
- ²⁵⁸ *Id.* at 15.
- ²⁵⁹ Peter Eckersley, Fred von Lohmann & Seth Schoen, Elec. Frontier Found., Packet Forgery by ISPs: A Report on the Comcast Affair (2007), available at http://www.eff.org/files/eff_comcast_report2.pdf; see Arbor Networks, White Paper: The Role of Deep Packet Inspection in Mobile Networks 2, available at <http://telephonyonline.com/whitepapers/forms/wp0109-arbor1/> (registration required) (explaining that while Hyper Text Transfer Protocol (HTTP) used to post Web pages "consistently uses port 80, many Web applications and traffic types use HTTP or masquerade as HTTP traffic in order to circumvent operator controls. This is the case with many peer-to-peer (p2p) applications.").
- ²⁶⁰ Jonathan Zittrain, The Future of the Internet and How To Stop It 180 (2008). Zittrain defines "generativity" as "a system's capacity to produce unanticipated change through unfiltered contributions from broad and varied audiences." *Id.* at 70.
- ²⁶¹ *Id.* at 181; see *infra* notes 314-17 and accompanying text.
- ²⁶² *Id.*
- ²⁶³ *Id.*

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- ²⁶⁴ Richard S. Whitt, [Evolving Broadband Policy: Taking Adaptive Stances To Foster Optimal Internet Platforms](#), 17 *CommLaw Conspectus* 417, 532 (2009).
- ²⁶⁵ Cf. FTC Dot Com Disclosures, *supra* note 118, at 1; FTC Policy Statement on Deception, *supra* note 113, at 3 (In cases involving omission of material information “the Commission examines the failure to disclose in light of expectations and understandings of the typical buyer regarding the claims made.”).
- ²⁶⁶ Comcast Comments, *supra* note 22, at 3-4.
- ²⁶⁷ *Id.* at 14.
- ²⁶⁸ *Id.* at 17.
- ²⁶⁹ Commission Statement of Policy on the Scope of the Consumer Unfairness Jurisdiction, appended to [Int’l Harvester Co.](#), 104 F.T.C. 949, app. at 1073 (1984) [hereinafter FTC Policy Statement on Unfairness]; see also 15 U.S.C. § 45(n) (2006).
- ²⁷⁰ [FTC v. Direct Mktg. Concepts, Inc.](#), 569 F. Supp. 2d 285, 297 (D. Mass 2008) (“To successfully prove a claim under section 5(a), the FTC must establish three elements: (1) that the advertisement conveyed a representation through either express or implied claims; (2) that the representation was likely to mislead consumers; and (3) that the misleading representation was material.”).
- ²⁷¹ [FTC v. IFC Credit Corp.](#), 543 F. Supp. 2d 925, 941 (N.D. Ill. 2008) (citing [FTC v. Bay Area Bus. Council, Inc.](#), 423 F.3d 627, 635 (7th Cir. 2005)); see also [FTC v. Verity Int’l, Ltd.](#), 443 F.3d 48, 63 (2d Cir. 2006); [FTC v. World Travel Vacation Brokers, Inc.](#), 861 F.2d 1020, 1029 (7th Cir. 1988) (determining that deception need not be made with intent to deceive; it is enough that the representations or practices were likely to mislead consumers acting reasonably).
- ²⁷² FCC Comcast Order, *supra* note 3, at 13,031-32.
- ²⁷³ Press Release, Vonage, Comcast and Vonage Form Collaboration to Address Network Management and Better Meet Customer Needs (July 9, 2008), <http://pr.vonage.com/releasedetail.cfm?ReleaseID=320493>. Over-the-top VoIP services use the Internet to provide voice “calls,” as opposed to a dedicated portion of the cable network or a wireline network. See Letter from Dana R. Shaffer, Chief, Wireline Competition Bureau & Matthew Berry, Gen. Counsel, FCC, to Kathryn Zachem, Vice President, Regulatory Affairs, Comcast Corp. 1-2 (Jan. 18, 2009), available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520213526 [hereinafter Jan. 2009 Letter from FCC to Comcast]; Letter from Kathryn Zachem, Vice-President, Regulatory and State Legislative Affairs, Comcast Corp. to Dana R. Shaffer, Chief, Wireline Competition Bureau & Matthew Berry, Gen. Counsel, FCC 2 (Jan. 30, 2009), available at http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520194593.
- ²⁷⁴ K.C. Jones, Comcast Again Chided for Allegedly Blocking Internet Traffic, *Info. Week*, July 10, 2008, <http://www.informationweek.com/news/infrastructure/management/showArticle.jhtml?articleID=208808475>.
- ²⁷⁵ *Id.*
- ²⁷⁶ See [Allied Tube & Conduit Corp. v. Indian Head, Inc.](#), 486 U.S. 492, 500-01 (1988) (recognizing that competitors participating in

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a standard setting organization (SSO) have incentives to restrain trade. The rule of reason standard measuring procompetitive benefits of the SSO's activities against its anticompetitive effects is used where "private associations promulgate safety standards based on the merits of objective expert judgments and through procedures that prevent the standard-setting process from being biased by members with economic interests in stifling product competition."). Private cooperation between competitors outside of an SSO are not accorded the same deference. See Federal Trade Commission, FTC Guide to Dealings with Competitors, Group Boycotts, available at http://www.ftc.gov/bc/antitrust/factsheets/FactSheet_Boycotts.pdf ("Any company may, on its own, refuse to do business with another firm, but an agreement among competitors not to do business with targeted individuals or businesses may be an illegal boycott, especially if the group of competitors working together has market power."). An agreement between an ISP and the developer of a particular Internet application or protocol to favor that company's Internet application should be scrutinized to ensure that the parties do not agree that the ISP will block or degrade subscriber use of competitive applications in a manner that would be tantamount to an agreement to engage in a group boycott. See *Klor's, Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 208 (1959).

²⁷⁷ See *Klor's, Inc.*, 359 U.S. at 208 n.1, 212. Section 1 of the Sherman Act makes illegal any contract, combination, or conspiracy in restraint of trade. "Group boycotts, or concerted refusals by traders to deal with other traders, have long been held to be in the forbidden category" and are treated as a per se violation of Section 1 of the Sherman Act. *Id.*

²⁷⁸ Sept. 25, 2008 Comcast Letter, *supra* note 187.

²⁷⁹ *Id.* at 1, 11.

²⁸⁰ Letter from Kathryn Zachem, Vice President, Regulatory & State Legislative Affairs, Comcast Corp., to Marlene H. Dortch, FCC Sec'y (Jan. 5, 2009).

²⁸¹ Comcast.net, Terms of Service--Announcement Regarding an Amendment to Our Acceptable Use Policy, <http://www.comcast.net/terms/network/amendment> (last visited Oct. 3, 2009) [hereinafter Comcast Network Management Amendment]. Comcast promised to contact customers who were using bandwidth at or above the limit to ask them to curtail their use. *Id.* Comcast told the FCC that it will change the amount of bandwidth allocated for uploads as use patterns change. Sept. 25, 2008 Comcast Letter, *supra* note 187, at 3 n.4.

²⁸² Comcast Network Management Amendment, *supra* note 281.

²⁸³ Erika Morphy, Comcast Rations Broadband Use at 250 GB per month, TechNewsWorld, Aug. 29, 2008, <http://www.technewsworld.com/story/Comcast-Rations-Broadband-Use-at-250-GB-per-Month-64358.html>.

²⁸⁴ Evan Hessel, Cable's Capping Conundrum, Broadband Users Face a New Choice Between High Prices and Restricted Downloading, *Forbes.com*, Feb. 19, 2009, http://www.forbes.com/2009/02/19/cable-internet-video-bandwidth-business-media_cable.html. In 2009, Time Warner tested Internet plans in some markets that offered more bandwidth for higher prices with download caps ranging from five gigabytes to 150 gigabytes per month, permitting the downloading of ten high-definition movies a month at Time Warner's top tier. Stacey L. Bradford, Get Ready To Pay More for the Web, *SmartMoney.com*, Dec. 1, 2008, <http://www.smartmoney.com/spending/rip-offs/get-ready-to-pay-more-for-the-web/>. A Cox Communications subscriber to its ISP services could download thirty-seven high-definition movies monthly at Cox's top tier. *Id.*

²⁸⁵ Sept. 25, 2008 Comcast Letter, *supra* note 187, attachment B at 2.

²⁸⁶ *Id.* attachment B at n.3.

- ²⁸⁷ Bloomberg News, Comcast To Slow Internet Service at Times to Its Heaviest Users, N.Y. Times, Aug. 20, 2008, at C9 (quoting Mitch Bowling, Comcast Senior Vice-President and General Manager for Online Services).
- ²⁸⁸ Hart Complaint, *supra* note 2, P 41.
- ²⁸⁹ Time Warner Cable, Operator Acceptable Use Policy, [http:// help.twcable.com/html/twc_misp_aup.html](http://help.twcable.com/html/twc_misp_aup.html) (last visited Oct. 3, 2009).
- ²⁹⁰ Chloe Albanesius, Cable Industry Jumps in To Defend Bandwidth Caps, PCMag.com, Apr. 15, 2009, <http://www.pcmag.com/article2/0,2817,2345370,00.asp>.
- ²⁹¹ Chloe Albanesius, Time Warner Scraps Bandwidth Cap Testing, PCMag.com, Apr. 16, 2009, <http://www.pcmag.com/article2/0,2817,2345430,00.asp>.
- ²⁹² Accelerating the Video Internet, *supra* note 20, at 6.
- ²⁹³ *Id.*
- ²⁹⁴ FTC Dot Com Disclosures, *supra* note 118, at 11.
- ²⁹⁵ See 15 U.S.C. § 45(n) (2006); FTC Policy Statement on Unfairness, *supra* note 269. While a full exploration of the unfair practices laws and contract modification defenses and doctrines are beyond this Article's scope, see *infra* notes 318-29 and accompanying text (providing an overview of relevant legal and equitable principles to judge such attempts to modify ongoing ISP subscriber contracts).
- ²⁹⁶ See Comcast Comments, *supra* note 22, at 11; Sept. 25, 2008 Comcast Letter, *supra* note 187, attachment B at 2.
- ²⁹⁷ Jan. 2009 Letter from FCC to Comcast, *supra* note 273 (quoting Comcast, Frequently Asked Questions About Network Management, [http:// help.comcast.net/content/faq/Frequently-Asked-Questions-About-Network-Management](http://help.comcast.net/content/faq/Frequently-Asked-Questions-About-Network-Management) (last visited Oct. 3, 2009) [hereinafter Comcast Help & Support FAQ]).
- ²⁹⁸ *Id.* (quoting Sept. 25 2008 Comcast Letter, *supra* note 187, attachment B at 13).
- ²⁹⁹ Jan. 2009 Letter from FCC to Comcast, *supra* note 273 (citing Comcast Help & Support FAQ, *supra* note 297).
- ³⁰⁰ Jan. 2009 Letter from FCC to Comcast, *supra* note 273.
- ³⁰¹ *Id.*
- ³⁰² Letter from Kathryn A. Zachem, Vice President, Regulatory & State Legislative Affairs, Comcast Corp., to Dana R. Shaffer, Chief, Wireline Competition Bureau & Matthew Berry, Gen. Counsel, FCC (Jan. 30, 2009).

303 Id.

304 Id.

305 Comcast Help & Support FAQ, *supra* note 297.

306 Comments of Vonage Holdings Corp., WC Docket 07-52, at 5 n.19 (Fed. Commc'ns Comm'n Feb. 13, 2008) [hereinafter Vonage Comments] (observing that whether a delay in Internet transmission is material will “depend on the context--a 30 second delay in the receipt of an email might not be material, while a 30 second delay in the receipt of a [VoIP] 911 call would be”).

307 47 U.S.C. § 152(a) (2006); E911 Requirements for IP-Enabled Providers, First Report and Order and Notice of Proposed Rulemaking, 20 F.C.C.R. 10245 (2005), *aff'd sub nom. Nuvio Corp. v. FCC*, 473 F.3d 302, 304 (D.C. Cir. 2006) [hereinafter E911 Requirements].

308 Vonage Comments, *supra* note 306, at 2.

309 Id.

310 See E911 Requirements, *supra* note 307. The Telecommunications Act of 1996 established several policies the FCC oversees: 47 U.S.C. §230(b) (“encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet”); 47 U.S.C. §230(b)(1) (promote the “continued development of the Internet”); 47 U.S.C. §230(b)(3) (encourage the “development of technologies [that] maximize user control over what information is received by individuals... who use the Internet”).

311 Vonage Comments, *supra* note 306, at 6.

312 Id.

313 Cf. Jerry Brito & Jerry Ellig, *A Tale of Two Commissions: Net Neutrality and Regulatory Analysis*, 16 *CommLaw Conspectus* 1, 17 (2007) (“Assigning different priorities to different types of packets could ensure the quality of services that are heavily dependent on transmission quality (such as VoIP or high-definition video), but it could also let the access provider degrade the quality of services that compete with services it might want to sell.”).

314 Cox Communications, Congestion Management FAQs (Feb. 13, 2009), <http://www.cox.com/policy/congestionmanagement/>.

315 Id.

316 Id.

317 Matthew Lasar, *Vuze Calls for FCC Probe of Cox Cable Traffic Management*, *Ars Technica*, Feb. 3, 2009, <http://arstechnica.com/telecom/news/2009/02/vuze-calls-for-fcc-probe-of-cox-cable-traffic-management.ars>.

- ³¹⁸ See Comcast.net, Acceptable Use Policy, [http:// www.comcast.net/terms/use/](http://www.comcast.net/terms/use/) (last visited Oct. 3, 2009) (“Comcast may revise this [Acceptable Use] Policy from time to time by posting a new version on the Web site at <http://www.comcast.net> or any successor URL(s)... Comcast will use reasonable efforts to make customers aware of any changes to this Policy, which may include sending e-mail announcements or posting information on the Comcast.net Web site. Revised versions of this Policy are effective immediately upon posting.”).
- ³¹⁹ See 15 U.S.C. § 45(n) (2006); FTC Policy Statement on Unfairness, *supra* note 269.
- ³²⁰ FTC Broadband Report, *supra* note 9, at 130 (citing CardSystems Solutions, Inc., No. C-4168 (Fed. Trade Comm’n Sept. 5, 2006), available at <http://www.ftc.gov/os/caselist/0523148/0523148CardSystemdo.pdf>).
- ³²¹ 849 F.2d 1354 (11th Cir. 1988).
- ³²² *Id.* at 1367 (quoting Orkin Exterminating Co., 108 F.T.C. 341, 349 (1986)).
- ³²³ *Douglas v. U.S. Dist. Court for the Cent. Dist. of Cal.*, 495 F.3d 1062, 1066 (9th Cir. 2007) (“Parties to a contract have no obligation to check the terms on a periodic basis to learn whether they have been changed by the other side.”).
- ³²⁴ See, e.g., *Cochran v. Quest Software, Inc.*, 328 F.3d 1 (1st Cir. 2003); *Lamb v. Emhart Corp.*, 47 F.3d 551 (2d Cir. 1995) (under Connecticut law, contract modifications require additional consideration). The requirement of consideration to make a contract modification enforceable prevents coercive modifications. *Contempo Design, Inc. v. Chi. & N.E. Ill. Dist. Council of Carpenters*, 226 F.3d 535 (7th Cir. 2000).
- ³²⁵ See *Restatement (Second) of Contracts* § 89 (1981); see, e.g., *Roussalis v. Wyo. Med. Ctr., Inc.*, 4 P.3d 209, 240 (Wyo. 2000) (finding that a determination that modification is fair and equitable requires an objectively demonstrable reason for seeking a modification).
- ³²⁶ *Szetela v. Discover Bank*, 118 Cal. Rptr. 2d 862, 866 (2002) (citing *Stirlen v. Supercuts, Inc.*, 60 Cal. Rptr. 2d 138 (1997)).
- ³²⁷ FTC Dot Com Disclosures, *supra* note 118, at 11 (“Disclosures must be effectively communicated to consumers before they make a purchase or incur a financial obligation.”).
- ³²⁸ *FTC v. Accusearch, Inc.*, No. 06-CV-105-D, 2007 WL 4356786, at *9 (D. Wyo. Sept. 28, 2007) (quoting *United States v. W.T. Grant Co.*, 345 U.S. 629, 632 (1953)).
- ³²⁹ *Id.* (citing *W.T. Grant Co.*, 345 U.S. at 633-34).
- ³³⁰ Yoo, *supra* note 42, at 528-29; see also Douglas A. Hass, *The Never-Was-Neutral Net and Why Informed End Users Can End the Net Neutrality Debates*, 22 *Berkeley Tech. L.J.* 1565, 1630 (2007) (proposing as an alternative to net neutrality laws or regulations a “Traffic Control Disclosure Act” modeled on the Fair Credit and Charge Card Disclosure Act to require consistent disclosure of the specifics of ISP service offerings and traffic control policies).
- ³³¹ FTC Broadband Report, *supra* note 9, at 162.

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332 Weiser, *supra* note 43, at 291.

333 *Id.* at 298.

334 Yoo, *supra* note 42, at 529.

335 *Id.* at 504. Yoo argues that network neutrality is not necessary because, as a prerequisite, a firm must have a “dominant position” in the market in order to have harmful vertical integration. *Id.* Yoo contends that even if a firm possessed a dominant position, such a firm would lack the “incentive to engage in vertical exclusion” because exclusion would not be necessary to extract monopoly revenues and increased vertical integration could lead to greater efficiency and profitability. *Id.* Some Internet applications such as video compete with Comcast at a horizontal level creating incentives for discrimination. See Frieden, *supra* note 90, at 210-11 (“In the absence of structural separation between wireline, wireless and VoIP telephone affiliates and between information and telecommunications service providers, a vertically and horizontally integrated venture may be tempted to use packet discrimination in ways that constitute an unfair and deceptive trade practice.”).

336 Wu, *supra* note 169, at 418.

337 *Id.*

338 *Id.*

339 *Id.* at 417.

340 van Schewick FCC Testimony, *supra* note 159, at 1.

341 *Id.*

342 *Id.* at 4.

343 Wu, *supra* note 169, at 417; van Schewick FCC Testimony, *supra* note 159. Nor are all households offered the same array of Internet access providers, narrowing choices especially for rural and ex-urban customers, or those to whom new or upgraded networks have not been provided, including some low-income neighborhoods.

344 Free Press Reply Comments, *supra* note 231, at 6.

345 The FCC reported that in June 2008, among 88.4 million high speed Internet lines that exceed 200 kbps both ways, “74.5 million lines were designed to serve primarily residential end users. Of these, cable modem represented 49.2% while 31.3% were ADSL [asynchronous DSL], 0.2% were SDSL [synchronous DSL] or traditional wireline, 2.9% were fiber to the end user premises, and 16.5% used other technologies.” FCC 2008 High-Speed Internet Access Report, *supra* note 193, at 3. The FCC has used a one-dimensional measurement--speed--to define broadband. According to this definition the FCC classifies all Internet services offering more than 200kb of speed in one direction as high-speed, regardless of restrictions on those services such as limits on device or computer attachment, content use, bandwidth limits, or congestion management practices that restrain substitutability between Internet services. Such restrictions limit consumer ability to substitute between services indicating that they should not be classified as competing in the same market. See Catherine Sandoval, Measuring Internet Access Substitutes and Service Gaps

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(2009), available at http://www.broadband.gov/docs/ws_benchmarks/sandoval.ppt; FCC Faces Tough Challenge Getting Broadband Benchmarks Right, Experts Agree, Washington Internet Daily, Sept. 3, 2009, at 3, http://www.digitalgovernment.com/media/Downloads/asset_upload_file463_2605.pdf.

346 Crawford, *supra* note 53, at 882.

347 *Id.* at 882-83 (emphasis omitted).

348 Werbach, *supra* note 70, at 374 (citing Alex Goldman, Top 23 U.S. ISPs by Subscriber: Q3 2008, ISP-Planet.com, Aug. 29, 2008, <http://ISP-planet.com/research/rankings/usa.html>).

349 Bill D. Herman, *Opening Bottlenecks: On Behalf of Mandated Network Neutrality*, 59 Fed. Comm. L.J. 103, 126 (2006). “Market concentration is a function of the number of firms in a market and their respective market shares.... The HHI is calculated by summing the squares of the individual market shares of all the participants.” *Horizontal Merger Guidelines*, 57 Fed. Reg. 41,552, 41,557-58, § 1.5 (Apr. 2, 1992, revised Apr. 8, 1997); see also Catherine Sandoval, *Antitrust Language Barriers: First Amendment Constraints on Defining an Antitrust Market by a Broadcast’s Language, and its Implications for Audiences, Competition, and Democracy*, 60 Fed. Comm. L.J. 407, 419, 446 (2008) (market definition determines the number of market participants and concentration levels).

350 *Horizontal Merger Guidelines*, 57 Fed. Reg. 41,552, 41,557-58, § 1.1 (Apr. 2, 1992, revised Apr. 8, 1997).

351 For example, Cable-based ISP Comcast advertises high speed Internet access from 12 Mbps (megabytes per second) to 50 Mbps, Comcast, The New Comcast High-Speed Internet: Speed Comparison, <http://www.comcast.com/Corporate/Learn/HighSpeedInternet/speedcomparison.html> (last visited Oct. 3, 2009); Cable-based ISP Cox advertises high speed Internet access from 1.5 Mbps to 25 Mbps, Cox Communications, High Speed Internet Services, http://ww2.cox.com/residential/santabarbara/internet.cox?campcode=classicpop_hsi_0409 (last visited Oct. 3, 2009); AT&T offers DSL up to 6 Mbps downstream and 768 Kbps (kilobytes per second) upstream, AT&T, Plan Details--AT&T High Speed Internet Elite, <http://www.att.com/gen/general?pid=10938> (last visited Oct. 3, 2009); Verizon advertises high speed Internet access from 1 mbps to 7.1 mbps for download speed (downstream) and 384 Kbps to 768 Kbps upstream, Verizon, High Speed Internet: Plans, <http://www22.verizon.com/Residential/HighSpeedInternet/Plans/Plans.htm> (last visited Oct. 3, 2009).

352 See Comcast Comments, *supra* note 22, at 11.

353 Fundamentals of DSL Technology 124 (Philip Golden, Hervé Dedieu & Krista Jacobsen eds., 2006) (the average bit rate on a cable network is less than the peak rate); see *id.* at 161 (“One advantage of DSL relative to other means of providing broadband in the last mile, such as cable modems or wireless access, is that each subscriber has a dedicated transmission medium--the phone line.”).

354 Weiser, *supra* note 43, at 291. Professor Weiser recommended that “the FTC should develop some basic guidance as to what information is important for consumers to understand vis-à-vis their broadband Internet access connections.” *Id.* Weiser argues that companies should inform consumers of the effective or average level of bandwidth speed for their broadband connection, as opposed to the hypothetical speed. *Id.*

355 FCC 2008 High-Speed Internet Access Report, *supra* note 193, at 4.

356 *Id.* at n.9 (63% of zip codes report both Asynchronous DSL, the most common type DSL, and cable modem subscribers). Criticisms abound of the FCC’s methodology that reported broadband penetration by zip code, which “considers the entire zip

code served if one user exists [who can get such service in that zip code], regardless of the circumstances or price paid.” Rob Frieden, *Lies, Damn Lies and Statistics: Developing a Clearer Assessment of Market Penetration and Broadband Competition in the United States* 15 (Dickinson School of Law Legal Studies, Research Paper No. 13-2008, 2008), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1159727. Internet service may not be available to all residents or businesses in that zip code, particularly for those in rural or less populated areas. *Id.* at 17. Although the FCC’s statistics likely overstated broadband access, these meager indicators revealed that even at the zip code level, not all communities, let alone households, had the opportunity to choose between cable and DSL-based Internet service. The FCC recognized that the zip code methodology was “insufficiently granular or precise to inform necessary policymaking” and is now collecting data by Census Tract level. FCC 2008 High-Speed Internet Access Report, *supra* note 193, at 1.

357 Many wireless carriers that offer Internet access restrict bandwidth use and prohibit access to certain applications and websites. Wu, *supra* note 169, at 418. These limits indicate that wireless Internet is not a competitive substitute, even if available. See, e.g., AT&T, *Wireless Data Service Terms and Conditions*, *supra* note 3 (stating that unless specifically designated for tethering, service plans cannot be used for any application that tethers the device to Personal Computers or any equipment for any purpose).

358 Verizon, *FiosFAQ.com*, Availability, [http:// www.fiosfaq.com/index.php?action=cat&catnum=3](http://www.fiosfaq.com/index.php?action=cat&catnum=3) (last visited Oct. 3, 2009); AT&T, Check AT&T Uverse Availability, [https:// uverse1.att.com/un/launchAMSSNotAuthenticated.do?target_action=serviceabilityCheck](https://uverse1.att.com/un/launchAMSSNotAuthenticated.do?target_action=serviceabilityCheck) (last visited Oct. 3, 2009).

359 Verizon, *Policies Section*, [http:// netservices.verizon.net/portal/link/main/selectregion](http://netservices.verizon.net/portal/link/main/selectregion) (last visited Oct. 3, 2009); Verizon, *FiosFAQ.com*, *Does Verizon Fios Have Hidden Bandwidth Caps?*, <http://www.fiosfaq.com/content.php?contentid=27> (last visited Oct. 3, 2009).

360 Daniel F. Spulber & Christopher S. Yoo, *Rethinking Broadband Internet Access*, 22 *Harv. J.L. & Tech.* 1, 2 (2008) (citing Indus. Analysis & Tech. Bureau, FCC, *High-Speed Service for Internet Access: Status as of June 30, 2007*, at tbl.1 (2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-280906A1.pdf).

361 See Sandoval, *supra* note 345, at 2, 5.

362 Sprint, *PCS Terms & Conditions*, [http:// www.sprintpcs.com/common/popups/popLegalTermsPrivacy.html](http://www.sprintpcs.com/common/popups/popLegalTermsPrivacy.html) (last visited Oct. 3, 2009) [hereinafter *Sprint Mobile Broadband Terms*] (specifying that Sprint prohibits using a phone as a modem in connection with a computer, PDA, or similar device except with phone-as-modem plans).

363 See, e.g., AT&T, *Wireless Data Service Terms and Conditions*, *supra* note 3 (prohibiting use of P2P for intranet browsing); XOHM, *Acceptable Use Policy*, http://www.xohm.com/en_US/xohm-policies/acceptable-use.html#aup_2b (last visited Oct. 3, 2009) [hereinafter *XOHM Acceptable Use Policy*] (reserving the right to limit file sharing Internet applications).

364 Sprint, *Mobile Broadband Connection Plan--3G*, [http:// nextelonline.nextel.com/NASApp/onlinestore/en/Action/DisplayPlans?filterString=Individual_Plans_Filter&id12=UHP_PlansTab_Link_IndividualPlans](http://nextelonline.nextel.com/NASApp/onlinestore/en/Action/DisplayPlans?filterString=Individual_Plans_Filter&id12=UHP_PlansTab_Link_IndividualPlans) (last visited Oct. 3, 2009).

365 Sprint *Mobile Broadband Terms*, *supra* note 362.

366 Grant Gross, *Xohm WiMax Usage Policy Says Sprint Can Enforce Bandwidth Limits*, *Computerworld Networking & Internet*, Sept. 30, 2008, [http:// www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9115905](http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9115905).

367 XOHM *Acceptable Use Policy*, *supra* note 363.

³⁶⁸ Troy Wolverton & John Boudreau, Apple, AT&T App Ties Probed, FCC Seeks Explanation on Why Google Voice Was Rejected for iPhone, San Jose Mercury News, Aug. 1, 2009, at A1.

³⁶⁹ Id.

³⁷⁰ Id.

³⁷¹ Ray Singel, AT&T Relents, Opens iPhone to Skype, VoIP, Wired, Oct. 6, 2009, <http://www.wired.com/epicenter/2009/10/iphone-att-skype/>; see Leslie Cauley, Skype's iPhone Limits Irk Some Consumer Advocates, USA Today, Apr. 2, 2009, http://www.usatoday.com/money/industries/technology/2009-04-01-att-skype-iphone_N.htm.

³⁷² HughesNet, Satellite Internet Access, <http://www.nationwidesatellite.com/> (last visited Oct. 3, 2009).

³⁷³ HughesNet, Frequently Asked Questions, http://www.nationwidesatellite.com/HughesNet/service/hughesnet_faq.asp#19 (last visited Oct. 3, 2009).

³⁷⁴ Id.

³⁷⁵ HughesNet, Fair Access Policy Overview, http://www.nationwidesatellite.com/HughesNet/service/HughesNet_fair_access_policy.asp (last visited Oct. 3, 2009).

³⁷⁶ Id.

³⁷⁷ Rosch Broadband Speech, *supra* note 104, at 8 (characterizing Comcast's actions as a constructive refusal to deal).

³⁷⁸ *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919) (recognizing a trader's freedom to choose with whom she will deal). A refusal to deal is not implied by promises of unfettered access to all of the content the Internet has to offer or unlimited Internet access. Such broad promises without conspicuous disclosures of limitations imply the opposite-- that the ISP will deal, making this defense of a Sherman Act violation unavailable, assuming other elements of a Sherman Act claim are proven including monopoly or market power, depending on the cause of action alleged.

³⁷⁹ *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408 (2004) (quoting *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919)). Trinko emphasized that claims that satisfied antitrust standards are preserved. *Id.* at 406. Trinko does not disturb the FTC Act's applicability to ISPs, as the Court recognized that Congress included a clause in the Telecommunications Act stating that it did not preempt the antitrust laws and any other laws of the United States. *Id.* ("[N]othing in [the Telecommunications Act of 1996] ... shall be construed to modify, impair, or supersede the applicability of any of the antitrust laws.") (quoting Telecommunications Act of 1996, § 601(b)(1), 110 Stat. 143 (codified at 47 U.S.C. § 152 note (2006))).

³⁸⁰ *Trinko*, 540 U.S. at 406-10; *Pac. Bell Tel. Co. v. Linkline Commc'ns., Inc.*, 129 S. Ct. 1109 (2009).

³⁸¹ *Trinko*, 540 U.S. at 406-10.

382 [Id. at 410.](#)

383 [129 S. Ct. 1109 \(2009\).](#)

384 [Id. at 1119.](#)

385 [Trinko, 540 U.S. at 409](#). See also [Covad Commc'ns Co. v. Bell Atl. Corp., 398 F.3d 666, 675-78 \(D.C. Cir. 2005\)](#) (reversing the district court's dismissal of Covad's claims of monopolization and attempted monopolization based on allegations that Bell Atlantic unlawfully refused to deal with would-be customers who had orders for DSL service pending with Covad, where the complaint sufficiently alleged that the refusal to deal resulted from a predatory practice such as profit sacrifice designed to drive out competitors).

386 Hart Complaint, *supra* note 2, P 40.

387 AT&T BlackBerry Features, <http://www.wireless.att.com/cell-phone-service/services/services-list.jsp?catId=cat1510007&LOSGId=&catName=BlackBerry%AE+Features> (last visited Oct. 3, 2009). Cf. AT&T Wireless Data Services Terms and Conditions, *supra* note 3.

388 Sept. 25, 2008 Comcast Letter, *supra* note 187 (Comcast began trials using Sandvine's programs that inspect the type and nature of packets passing through Comcast's Internet access network in May 2005 and widely deployed Sandvine technology in 2007 to identify P2P uploads it determined to be a source of Internet congestion and issue "reset packets" to delay unidirectional uploads). Comcast did not refuse to deal with P2P or "manage" its use on a widespread basis until 2007, though it only disclosed these practices per the FCC's August 2008 order. The Supreme Court decided the Brand X case on June 27, 2005, affirming the FCC's decision to reclassify cable-modem ISPs as information services providers instead of common carriers and remove nondiscrimination obligations. [Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 974 \(2005\)](#). It is noteworthy that Comcast began trials using Sandvine to detect traffic patterns after the Brand X case was argued. Once Brand X affirmed the FCC's decision not to impose common-carrier obligations on cable-based ISPs, Comcast continued its experiments with Sandvine's packet inspection programs and deployed reset techniques in 2007. This timeline highlights the importance of the regulatory shift in enabling the use of deep-packet inspection technologies.

389 Weiser, *supra* note 43, at 290; see Speta, *supra* note 68, at 243 ("[T]hose providing information and services 'on the Internet' and those purchasing access 'to the Internet' share an expectation of mutual, universal interconnection... that he or she will be able to reach everyone else using the Internet.").

390 [Thompson Med. Co., 104 F.T.C. 648, 842-43 \(1984\)](#) (stating that effective disclosures must be clear and conspicuous).

391 See, e.g., AT&T, Plan Terms, *supra* note 26.

392 [Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 408 \(2004\)](#) (citing [Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 601 \(1985\)](#)).

393 See, e.g., [15 U.S.C. § 45 \(2006\)](#) (prohibiting unfair methods of competition under the FTC Act); [Trinko, 540 U.S. at 407](#) (stating that an abuse of monopoly power claim under § 2 of the Sherman Act requires both monopoly power in the relevant market and "the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior

product, business acumen, or historic accident” (quoting *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966)); *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 480-86 (1992) (explaining that monopoly power in an aftermarket may demonstrate a § 2 violation even if the primary market for the product is competitive where its purported business justifications fail to explain respondent’s conduct); *Aspen Skiing*, 472 U.S. at 610-11 (finding a refusal to deal anticompetitive where a company possesses monopoly power and there is evidence of willingness “to sacrifice short-run benefits and consumer goodwill in exchange for a perceived long-run impact on its smaller rival”); *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 13-14 (1984) (stating that tying arrangements are condemned where the seller has market power to force a purchaser to do something he would not do in a competitive market); *Fortner Enters., Inc. v. U.S. Steel Corp.*, 394 U.S. 495, 503 (1969) (stating that a tying arrangement violates § 1 of the Sherman Act if the seller has appreciable economic power in the tying product market and if the arrangement affects a substantial volume of commerce in the tied market). See also *Klor’s Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 208 n.1 (1959) (noting Section 1 of the Sherman Act makes illegal any contract, combination, or conspiracy in restraint of trade); Speta, *supra* note 68, at 277 (“[B]ecause antitrust litigation requires extensive discovery to establish proof of market power, an antitrust claim is likely to prove difficult and costly to prosecute.”).

394 *United States v. Microsoft Corp.*, 253 F.3d 34, 59 (D.C. Cir. 2001) (citing *Eastman Kodak Co.*, 504 U.S. at 483) (“If the monopolist asserts a procompetitive justification--a nonpretextual claim that its conduct is indeed a form of competition on the merits because it involves, for example, greater efficiency or enhanced consumer appeal--then the burden shifts back to the plaintiff to rebut that claim.”).

395 Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, A National Broadband Plan for Our Future, GN Docket No. 09-137, GN Docket No. 09-51) (Fed. Commc’ns Comm’n Aug. 7, 2009).

396 15 U.S.C. § 45 (2006). See *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 239 (1972) (stating the FTC may “define and proscribe an unfair competitive practice, even though the practice does not infringe either the letter or the spirit of the antitrust laws”); *Rambus Inc. v. FTC*, 522 F.3d 456, 464-65 (D.C. Cir. 2008), cert. denied, 129 S. Ct. 1318 (2009) (noting that to be condemned, monopolist’s deceptive conduct must have anticompetitive effect); see also *Cal. Dental Ass’n v. FTC*, 526 U.S. 756, 771 n.9 (1999) (citing *FTC v. Algoma Lumber Co.*, 291 U.S. 67, 79-80 (1934)) (stating that false or misleading advertising may constitute unfair competition under the FTC Act).

397 *Microsoft*, 253 F.3d at 76.

398 *Id.*

399 *Id.* at 77.

400 Brito & Ellig, *supra* note 313, at 17.

401 *Id.* at 17-18.

402 *Id.* at 34.

403 Nuechterlein, *supra* note 61, at 21.

404 *Pac. Bell Tel. Co. v. Linkline Commc’ns, Inc.*, 129 S. Ct. 1109, 1119 (2009).

- ⁴⁰⁵ *FTC v. Sperry & Hutchinson Co.*, 405 U.S. 233, 239 (1972) (stating that the FTC has authority to “define and proscribe an unfair competitive practice, even though the practice does not infringe either the letter or the spirit of the antitrust laws”); *FTC v. Ind. Fed’n of Dentists*, 476 U.S. 447, 454 (1986) (explaining that the FTC unfairness standard encompasses not only antitrust law violations but practices the Commission determines are against public policy for other reasons).
- ⁴⁰⁶ Carly Simon, Give Me All Night, on *Coming Around Again* (C’est Music 1987).
- ⁴⁰⁷ *FTC v. Verity Int’l, Ltd.*, 443 F.3d 48, 66 (2d Cir. 2006) (stating that § 13(b) of the FTC Act provides that “in proper cases the [FTC] may seek, and after proper proof, the court may issue, a permanent injunction” (alteration in original) (quoting 15 U.S.C. § 53(b) (2006))).
- ⁴⁰⁸ Karl Bode, Why Are ISPs Still Advertising Limited Services as Unlimited? Better Question: Why Are They Still Getting Away with It? (Dec. 19, 2008), <http://www.dsreports.com/shownews/Why-Are-ISPs-Still-Advertising-Limited-Services-As-Unlimited-99769>.
- ⁴⁰⁹ *Id.* 600 kbps would be a very slow Internet service.
- ⁴¹⁰ Free Press, Notice of Ex Parte Filing, WC Docket No. 07-52 (Fed. Commc’ns Comm’n Oct. 24, 2008).
- ⁴¹¹ Sept. 25, 2008 Comcast Letter, *supra* note 187, attachment B at 2.
- ⁴¹² See Arbor Networks, *supra* note 259, at 7 (“[T]ransparency with customers is critical to success. Experience reveals that when providers disclose how, when and why they manage bandwidth, the result is increased customer satisfaction, reduced churn and enhanced communication.”).
- ⁴¹³ *FTC v. QT, Inc.*, 512 F.3d 858, 862 (7th Cir. 2008) (citing Arthur C. Clarke, Profiles of the Future 36 (Holt, Rinehart and Winston 1984)).
- ⁴¹⁴ *FTC v. Verity Int’l, Ltd.*, 443 F.3d 48, 66 n.5 (2d Cir. 2006) (“Section 13(b) [of the FTC Act] carries with it the authorization for the district court to exercise the full range of equitable remedies traditionally available to it.” (quoting *FTC v. Sw. Sunsites, Inc.*, 665 F.2d 711, 718 (5th Cir. 1982))); *id.* at 66 n.7 (“[W]here Congress allows resort to equity for the enforcement of a statute, all the inherent equitable powers of the district court are available for the proper and complete exercise of the court’s equitable jurisdiction, unless the statute explicitly, or by a necessary and inescapable inference, limits the scope of that jurisdiction.” (quoting *FTC v. Sec. Rare Coin & Bullion Corp.*, 931 F.2d 1312, 1314 (8th Cir. 1991))); *id.* at 66 n.9 (“[A]bsent a clear command to the contrary, the district court’s equitable powers are extensive” and include “the power to grant restitution and disgorgement.” (quoting *FTC v. Gem Merch. Corp.*, 87 F.3d 466, 469 (11th Cir. 1996))).
- ⁴¹⁵ *Verity*, 443 F.3d at 67 (quoting *Pereira v. Farace*, 413 F.3d 330, 340 (2d Cir. 2005) (“[R]estitution is measured by a defendant’s unjust gain, rather than by a plaintiff’s loss”)); see also *FTC v. Pantron I Corp.*, 33 F.3d 1088, 1102 (9th Cir. 1994) (“Both the Commission and the courts have recognized that consumer injury is substantial when it is the aggregate of many small individual injuries.”).
- ⁴¹⁶ *FTC v. Colgate-Palmolive Co.*, 380 U.S. 374, 395 (1965).

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⁴¹⁷ FCC Comcast Order, *supra* note 3, at 13,047.

⁴¹⁸ Vonage Comments, *supra* note 306, at 8.

⁴¹⁹ See Wu, *supra* note 169, at 391 (advocating application of the Carterfone rules to wireless networks to bar locking devices to a single carrier and “[r]equire carriers to allow... the attachment of any compatible and non-harmful network device”). The FCC declared in *Use of the Carterfone Device in Message Toll Telephone Service*, 13 F.C.C.2d 420, reconsideration denied, 14 F.C.C.2d 571 (1968), that users had the right to attach devices to the telephone network as long as they did not harm the network. To implement that principle, the FCC led a cooperative process through its Part 68 proceeding to develop standards that allowed devices such as computer modems to interconnect to the telephone network. *Proposals for New or Revised Classes of Interstate and Foreign Message Toll Telephone Service (MTS) and Wide Area Telephone Service (WATS), First Report and Order*, 56 F.C.C.2d 593 (1975). The program adopted through the Part 68 proceeding “allows users to connect any terminal equipment to the telephone network if such equipment is connected through protective circuitry registered with the Commission or if such equipment is itself registered with the Commission.” *Id.* at 599. Part 68’s connection standards were designed to promote access to a dominant telephone system governed by common-carrier regulation. See Kevin Werbach, *The Federal Computer Commission*, 84 N.C. L. Rev. 1, 21 (2005) (freedom to connect modems and run Internet applications would not be possible without the Part 68 rules). Although a full exploration of the principles that should guide the FCC in its examination of reasonable network management falls beyond this Article’s reach, the FCC should consider whether the network harm standard set forth in Carterfone and Part 68 should be used to define the limits of “reasonable network management.” See *supra* notes 35-36 and accompanying text. The FCC should also determine whether refusals to deal, practices such as resets and slow-down policies, and ISP conduct that unreasonably harms an application or service provided over the Internet that competes with its services or those of an affiliate are lawful under the Communications Act. Cf. Crawford, *supra* note 53, at 873-77 (characterizing Internet Access Providers as “our new access providers for general-purpose communications” and arguing that such providers should be once again subject to nondiscrimination rules).

⁴²⁰ Yoo, *supra* note 42, at 504.

⁴²¹ Weiser, *supra* note 43, at 318 (citing Jonathan E. Nuechterlein & Philip J. Weiser, *Digital Crossroads: American Telecommunications Policy in the Internet Age* 428-29 (2005)) (suggesting that “the FCC’s role be limited to remedying anticompetitive conduct rather than taking proactive initiatives”); see Howard A. Shelanski, *Adjusting Regulation to Competition: Toward a New Model for U.S. Telecommunications Policy*, 24 *Yale J. on Reg.* 55, 101-02 (2007) (recommending an “ex post enforcement regime” because some conduct may have a beneficial effect on consumers)).

⁴²² See, e.g., *Klor’s Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 208 n.1 (1959) (noting Section 1 of the Sherman Act makes illegal any contract, combination, or conspiracy in restraint of trade).

⁴²³ See Frischmann & van Schewick, *supra* note 33, at 419 (“[T]he disciplining effect of competition--to the extent it exists--depends on the amount of competition in the local market for Internet access services”). The widespread adoption of ISP restrictions on the use of Internet applications also limits the ability of competition to protect innovation and access to Internet applications and content.

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